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SUB-COMMITTEE ON SAFETY OF
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REPORT TO THE MARITIME SAFETY COMMITTEE

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1 GENERAL

1.1 The Sub-Committee on Safety of Navigation held its forty-eighth session from 8 to 12 July 2002 at the Headquarters of the Organization, under the chairmanship of Mr. K. Polderman (The Netherlands). The Vice-Chairman, Dr. V.I. Peresyphkin (Russian Federation), was also present.

1.2 The session was attended by representatives of the following countries:

ALGERIA	JAPAN
ANTIGUA AND BARBUDA	KENYA
ARGENTINA	LATVIA
AUSTRALIA	LEBANON
AUSTRIA	LIBERIA
BAHAMAS	LITHUANIA
BANGLADESH	MALAYSIA
BELGIUM	MARSHALL ISLANDS
BRAZIL	MEXICO
BULGARIA	MOROCCO
CANADA	NETHERLANDS
CHILE	NORWAY
CHINA	PANAMA
COLOMBIA	PERU
CÔTE D'IVOIRE	PHILIPPINES
CROATIA	POLAND
CYPRUS	PORTUGAL
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA	REPUBLIC OF KOREA
DENMARK	ROMANIA
ECUADOR	RUSSIAN FEDERATION
EGYPT	SINGAPORE
ESTONIA	SOUTH AFRICA
FINLAND	SPAIN
FRANCE	SWEDEN
GERMANY	TURKEY
GREECE	UKRAINE
ICELAND	UNITED KINGDOM
INDONESIA	UNITED STATES
ITALY	VENEZUELA
	YEMEN

and of the following Associate Member of IMO:

HONG KONG, CHINA

1.3 The session was also attended by representatives from the following United Nations and specialized agency:

OFFICE OF THE UNITED NATIONS HIGH COMMISSIONER FOR REFUGEES
(UNHCR)

1.4 The following intergovernmental and non-governmental organizations were also represented:

INTERNATIONAL HYDROGRAPHIC ORGANIZATION (IHO)
INTERNATIONAL MOBILE SATELLITE ORGANIZATION (IMSO)
INTERNATIONAL CHAMBER OF SHIPPING (ICS)
INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)
INTERNATIONAL SHIPPING FEDERATION LIMITED (ISF)
INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)
INTERNATIONAL UNION OF MARINE INSURANCE (IUMI)
INTERNATIONAL CONFEDERATION OF FREE TRADE UNIONS (ICFTU)
INTERNATIONAL ASSOCIATION OF MARINE AIDS TO NAVIGATION AND Lighthouse AUTHORITIES (IALA)
INTERNATIONAL RADIO-MARITIME COMMITTEE (CIRM)
INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS)
OIL COMPANIES INTERNATIONAL MARINE FORUM (OCIMF)
INTERNATIONAL MARITIME PILOTS ASSOCIATION (IMPA)
INTERNATIONAL ASSOCIATION OF INSTITUTES OF NAVIGATION (IAIN)
INTERNATIONAL ASSOCIATION OF INDEPENDENT TANKERS OWNERS (INTERTANKO)
INTERNATIONAL LIFEBOAT FEDERATION (ILF)
INTERNATIONAL COUNCIL OF CRUISE LINES (ICCL)
INTERNATIONAL ASSOCIATION OF DRY CARGO SHIPOWNERS (INTERCARGO)
INTERNATIONAL SAILING FEDERATION (ISAF)
INTERNATIONAL MARINE CONTRACTORS ASSOCIATION (IMCA)
WORLD NUCLEAR TRANSPORT INSTITUTE (WNTI)
INTERNATIONAL HARBOUR MASTERS' ASSOCIATION (IHMA)
EUROPEAN COMMISSION (EC)
INTERNATIONAL ASSOCIATION OF PORTS AND HARBOURS (IAPH)
FRIENDS OF THE EARTH INTERNATIONAL (FOEI)
INTERNATIONAL FEDERATION OF SHIPMASTERS' ASSOCIATION (IFSMA)
WORLD WIDE FUND FOR NATURE (WWF)
INTERNATIONAL SALVAGE UNION (ISU)

1.5 In welcoming the participants, the Secretary-General first referred to the particular significance attached to the session being the first since the entry into force of the revised SOLAS chapter V on 1 July 2002. The thorough revision of that chapter had been an important milestone for IMO and the work of the Sub-Committee had been most appreciated.

On the issue of maritime security, the Secretary-General reminded the Sub-Committee of the varied programme of activities the Organization began delivering in November 2001 as follow up to the requests of the Assembly in resolution A.924. In the regulatory area, a number of meetings had led to MSC 75 tasking the Sub-Committee with the consideration of several important operational issues. He referred, in particular, to the technical specifications for all AIS related-standards; security of the AIS equipment against outside interference; a system for long-range tracking and identification; and means of raising alarm on ships under terrorist attack. In addition, issues relating to the Guidelines for the installation of AIS, draft performance standards for AIS equipment not meeting the requirements of resolution MSC.74(69) and introducing and maintaining AIS binary messages also had to be considered. At this session, the Sub-Committee was expected to finalize the technical specifications for AIS related-standards and means of raising alarm on ships under terrorist attack. The outcome of that consideration would be

taken into account by the September session of the Intersessional Working Group on Maritime Security and subsequently reported, through MSC 76, to the SOLAS Diplomatic Conference scheduled to be held in December to adopt new provisions for maritime security under SOLAS chapter XI and a new International Ship and Port Facility Security Code.

The Secretary-General underlined that the importance of the December Conference escaped no one and especially the eight Nations' Leaders who, at their summit at Kananaskis in Canada last June, had focussed on the issue of terrorism and the need to protect shipping against terrorist attacks. The fact that the G8 Leaders had done so and the decisions they had reached had had two important and significant aspects:

- first, the leadership role that they expected of IMO in the promotion of the globally perceived need to protect shipping from becoming a target of international terrorism; and
- secondly, that, by recognizing IMO's role in this world effort, they:
 - had indicated satisfaction with, and confidence in, IMO's swift, firm and decisive reaction to last year's tragic events; and
 - that they had also great expectations of the results of the December Conference.

Judging from the way IMO had responded so far, its agreed programme of future work and the determination and commitment of the membership, industry and other co-competent organizations, he was confident that IMO would live up to the expectations placed on it.

Against the background of last year's tragedy, the outcome of the Kananaskis summit had come as a reinforcement of the efforts he had repeatedly made in raising awareness of the importance and significance of shipping to world trade and the economic chaos that would be caused if the worldwide supply chain were to be breached because of terrorist attacks against ships and ports.

Turning to other important tasks before the Sub-Committee, the Secretary-General highlighted the consideration of proposals for ships' routing, ship reporting and other measures aimed at enhancing the safety of navigation in areas of identified navigational hazards and environmentally sensitive sea areas. He mentioned particularly the proposals calling for the establishment of new traffic separation schemes in the Southern Red Sea and Off Cape La Nao and Cape Palos at the south-eastern corner of the Iberian Peninsula, amendments to the existing TSSs "In the Gulf of Finland", "Bay of Fundy and approaches" and "In the Strait of Bab el Mandeb", as well as new routing measures off the Mediterranean coast of Egypt, recommended tracks for the Southern Red Sea including proposed amendments to the guidance to navigation through the entrances to the Baltic Sea. Proposals for the establishment of two new mandatory ship reporting systems in the Gulf of Finland and the Adriatic Sea would require consideration in accordance with the best established practice.

The Secretary-General also referred to the importance of the human element in the safety of navigation and, in particular, the man/machine interface which had been properly recognized by IMO with the Sub-Committee addressing ergonomic issues with respect to shipboard operations for sometime. At this session, the Sub-Committee was expected to prepare a draft MSC circular on Guidance for Integrated Bridge System operational aspects and also to clarify operational and technical issues involved for the display and integration of AIS target information.

Referring to “places of refuge” he referred to his statement at MSC 74 when he suggested that the time had come for IMO to consider the problem globally, as a matter of priority, and to adopt any measures required to ensure that, in the interests of safety of life at sea and environmental protection, coastal States reviewed their contingency arrangements so that disabled ships were provided with assistance and facilities as might be required in the circumstances. Because of the non-mandatory character of the approach envisaged by IMO, he was confident that any concerns associated with the problem would be alleviated and that the matter would be tackled in IMO’s usual constructive manner. MSC 74 had subsequently decided that, at this stage, the matter should be considered from the operational perspective and, as a consequence, it had designated the Sub-Committee as the co-ordinating Sub-Committee. NAV 47 had prepared draft terms of reference on how to proceed, which the MSC 74 had approved. At the current session, the Sub-Committee was therefore expected to develop, review and refine the draft guidelines for action of masters of ships in need of places of refuge as well as the guidelines for actions expected of coastal States; and guidelines for the evaluation of risks associated with the provision of places of refuge, including the identification of further guidance for the COMSAR Sub-Committee.

With respect to navigational aids and related matters, the Secretary-General mentioned that, as part of its work on performance standards for navigational equipment, the Sub-Committee was expected to progress the feasibility study on mandatory carriage of Voyage Data Recorders on existing cargo ships and to refine the draft performance standards for radar reflectors; and to give preliminary consideration to the review of performance standards for radar equipment.

With respect to large passenger ship safety, the Sub-Committee was expected to give initial consideration to developing guidelines to improve the quality and availability of hydrographic information for operation in remote areas and to determine whether additional bridge team resources were necessary for operation in high-density traffic areas; and also the need for the effective use of VTS technology.

Regarding the operational aspects of work on bulk carrier safety, the Sub-Committee was expected to consider the implications of an active reporting system of the position of all ships, taking into consideration the relevant MSC circular on Guidance on ships’ daily reporting of their positions to their companies, and the potential for erosion of the master’s discretion in current weather routing arrangements taking into account the provisions of resolution A.893 on Guidelines for voyage planning.

1.6 The Chairman thanked the Secretary-General for his words of encouragement and stated that the Secretary-General's advice and request would be given every consideration in the Sub-Committee's deliberations.

Adoption of the agenda

1.7 The Sub-Committee adopted the agenda, as approved by MSC 75 (NAV 48/2/2, annex 4). The agenda of the session, including a list of documents submitted under each agenda item is given in annex 1.

2 DECISIONS OF OTHER IMO BODIES

The Sub-Committee noted, in general decisions and comments (NAV 48/2, NAV 48/2/1 and NAV 48/2/2), pertaining to its work made by SLF 44, LEG 83, A 22, MSC/ES.1, FAL 29, STW 33, ISWG (Maritime Security), COMSAR 6, MEPC 47, DE 45, FSI 10, LEG 84 and MSC 75 and considered them under the relevant agenda items.

3 ROUTEING OF SHIPS, SHIP REPORTING AND RELATED MATTERS

New Traffic Separation Schemes (TSSs)

New traffic separation schemes for the Southern Red Sea

3.1 The Sub-Committee recalled that at its forty-sixth session, a preliminary proposal for the establishment of new and amended traffic separation schemes in the southern Red Sea, to increase maritime safety and protection of the marine environment had been submitted by Yemen and endorsed, in principle, by the Government of Eritrea, namely through the Ministry of Transport and Communications, Eritrea and the Government of Djibouti. The main aim of this proposal was to seek guidance from the Sub-Committee as to whether the proposed routes were correctly located and aligned prior to the execution of hydrographic survey work. The Sub-Committee agreed with the preliminary proposal from Yemen and was of the opinion that the proposal was sound and a good basis for the execution of the hydrographic surveys intended by Yemen.

3.2 At the request of the Governments of Djibouti, Eritrea and Yemen (NAV 48/3/4), the Sub-Committee examined a revised proposal on the establishment of new and amended routeing measures in the southern Red Sea to increase maritime safety and protection of the marine environment in this area, given the need to establish routeing measures for ships using the passages east of Jebel Zuqar/Abu Ali islands, the need to establish routeing measures for ships using passages south and west of the Hanish islands and the need for ships to operate in the deepest available waters to and from the Straits of Bab el Mandeb, following completion of a hydrographic survey of the whole of this area in 2001 and publication of re-schemed and updated charts to improve the quality of the information available to mariners navigating in the area.

3.3 The delegation of the United Kingdom queried the necessity for two-way passages both east and west of the islands, and the consequential need for the proposed precautionary area and the undesirable crossing encounters concentrated at the junction of the routes that the proposals created.

3.4 The observer from ISAF stated that it appreciated the thought given to small craft by the Republic of Yemen when developing their proposal, but was of the view that:

- .1 small craft under sail may now cross the extended TSS at random positions along its length instead of rounding in a known area at the end of a TSS as at present; and
- .2 due to weather conditions at many times of the year small craft under sail may find it very difficult to cross the TSS at an acceptable angle.

3.5 ISAF, therefore, proposed the establishment of an intersection in the proposed Southern TSS to allow for a crossing area for small sailing vessels.

Traffic Separation Scheme off Cape La Nao

3.6 At the request of the Government of Spain (NAV 48/3/6), the Sub-Committee examined a proposal to establish a new traffic separation scheme off Cape La Nao (south-east part of the Iberian Peninsula) with a view to increasing safety at sea, navigational safety and the protection of the marine environment in an area of vessel traffic convergence, where the traffic density is very high. The traffic separation scheme is located entirely within Spanish territorial waters.

Traffic Separation Scheme off Cape Palos

3.7 At the request of the Government of Spain (NAV 48/3/7), the Sub-Committee examined a proposal to establish a new traffic separation scheme off Cape Palos (south-east point of the Iberian Peninsula) in order to increase navigational safety, safety of shipping and marine environmental protection in an area of vessel traffic convergence, where there is very high traffic density. The traffic separation scheme is located entirely within Spanish territorial waters.

3.8 The delegation of Spain also informed the Sub-Committee that Spain was working on the feasibility of expanding the present traffic separation scheme in the Strait of Gibraltar by extending it towards the Mediterranean Sea, in order to present it to the next session of the Sub-Committee. In this way, a precautionary area would be created opposite Algeciras Bay, which is an area with heavy crossing north/south traffic between both the continents and where risky situations were frequent at the moment.

Amendments to the existing Traffic Separation Schemes (TSSs)

Amendment to the Traffic Separation Schemes in the Gulf of Finland

3.9 At the request of the Governments of Estonia, Finland and the Russian Federation (NAV 48/3/1), the Sub-Committee examined a proposal to amend the existing traffic separation schemes in the Gulf of Finland.

Amendment to the Traffic Separation Scheme in the Bay of Fundy and Approaches

3.10 At the request of the Government of Canada (NAV 48/3/5), the Sub-Committee examined a proposal to amend the IMO-adopted existing traffic separation scheme (TSS) in the Bay of Fundy and approaches. The purpose for amending the TSS was to reduce ship strikes of the highly endangered North Atlantic Right Whale by shifting the traffic lanes of the TSS from an area with the highest density of Right Whales to an area where there was a lower density.

Amendment and extension of the existing traffic separation scheme in the Strait of Bab el Mandeb for the Southern Red Sea

3.11 The Sub-Committee considered a proposal by Eritrea, Djibouti and Yemen (NAV 48/3/4) to amend and extend the existing traffic separation scheme in the Strait of Bab el Mandeb.

Routeing measures other than TSSs

Routeing measures off the Mediterranean coast of Egypt

3.12 The Sub-Committee recalled that a similar proposal was submitted to its forty-seventh session but not approved as the proposed routes ran close to or parallel to new traffic separation schemes.

3.13 At the request of the Government of Egypt (NAV 48/3), the Sub-Committee examined a revised proposal on the establishment of routeing measures off the Mediterranean coast of Egypt so as to ensure that the safety of navigation is not affected by the operation of exploration and drilling for natural gas and crude oil.

Recommended tracks and precautionary area for the Southern Red Sea

3.14 At the request of the Governments of the Republic of Yemen, the State of Eritrea and the Republic of Djibouti (NAV 48/3/4), the Sub-Committee examined a revised proposal on the establishment of new recommended tracks and a precautionary area for the southern Red Sea.

Mandatory Ship Reporting Systems

Establishment of a Mandatory Ship Reporting Area in the Baltic Sea (Gulf of Finland)

3.15 At the request of the Governments of Estonia, Finland and the Russian Federation, the Sub-Committee examined a proposal (NAV 48/3/1) to establish a new mandatory ship reporting system in the international waters area of the Gulf of Finland between the traffic separation scheme Off Köpu Peninsula and the longitude of 026°30'E.

Establishment of a Mandatory Ship Reporting System in the Adriatic Sea known as “ADRIATIC TRAFFIC”

3.16 The Sub-Committee recalled that an initial proposal had been submitted to its forty-seventh session, which was not agreed to due to the concerns expressed by Member Governments at NAV 47.

3.17 At the request of the Governments of Albania, Croatia, Italy, Slovenia and Yugoslavia, the Sub-Committee examined a revised proposal (NAV 48/3/2 and Corr.1) for the establishment of a mandatory ship reporting system in the Adriatic Sea known as “ADRIATIC TRAFFIC” which caters to the concerns expressed by Member Governments at NAV 47.

3.18 The Sub-Committee was informed by the proposing countries that the southern limit of the mandatory ship reporting area had been adjusted northwards to cater for the concerns expressed earlier at NAV 47.

3.19 The delegations of the Republic of Croatia and Italy in support of the joint proposal on the establishment of a mandatory ship reporting system in the Adriatic Sea emphasized the richness of natural, environmental and cultural resources of the Adriatic Sea and the need for protection of this world heritage bearing in mind the increase of traffic of ships carrying dangerous and polluting goods in the area concerned. The delegations also stated that the proposed measures should enhance the safety of navigation, protection of the marine environment, facilitate movements of vessels and support search and rescue including pollution response operations.

Recommendations for navigation

Navigation through the entrances to the Baltic Sea: Amendment of resolution A.579(14) and resolution A.620(15)

3.20 At the request of the Governments of Denmark, Estonia, Finland, Germany, Poland, Russian Federation and Sweden (NAV 48/3/3), the Sub-Committee examined a proposal to amend the existing IMO resolutions regarding navigation through the entrances to the Baltic Sea, by extending the recommendations to make use of the locally established pilotage services and bringing the recommendations up-to-date with the requirements of modern navigation.

Navigation through the Gulf of Finland traffic area

3.21 The Sub-Committee considered the proposed recommendation on navigation through the Gulf of Finland traffic area (NAV 48/3/1, annex 2).

Depiction of Special areas and Particularly Sensitive Sea Areas (PSSAs) on nautical charts

3.22 The Sub-Committee noted with appreciation the information provided by IHO (NAV 48/INF.2), giving details on the IHO methods for the depiction of Special Areas and Particularly Sensitive Sea Areas (PSSAs) on nautical charts.

Automatic Identification Systems (AIS) reporting

3.23 The delegation of the United Kingdom raised the question of ship reporting by Automatic Identification Systems (AIS) and requested the Sub-Committee to address the issue of the provisions and/or procedures for the confirmation of reporting through AIS (paragraphs 3.51 to 3.53 also refer).

Guidance on conflicting actions in collision avoidance

3.24 The Sub-Committee recalled that STW 32, while considering the request of NAV 46 to develop appropriate guidance for maritime training institutes on the importance of paying proper attention in the training of officers of the navigational watch to the matter of conflicting actions in collision avoidance, decided that there was insufficient information on which to take action and invited the NAV Sub-Committee (STW 33/5/1) to provide examples to clearly demonstrate the issues involved in order to take appropriate action.

3.25 The Sub-Committee noted that at its forty-seventh session it approved a note for the STW Sub-Committee (NAV 47/13, annex 21) providing the requested information on conflicting actions in collision avoidance.

3.26 The Sub-Committee further noted that STW 33 considered that this issue was not only a training issue but also an operational one and therefore it could not be addressed by issuing guidance to maritime training institutes, and noting that some of the examples provided were more than 20 years old, STW 33 agreed to note the information provided and instructed the Secretariat to advise the NAV Sub-Committee of the outcome of its deliberations.

Guidance for the preparation of proposals on ships' routeing and ship reporting systems

3.27 The delegation of the United States supported by some other delegations requested the Sub-Committee to consider preparing a draft MSC circular on Guidance for the preparation of proposals on ships' routeing and ship reporting systems. The purpose of the proposed guidance was to assist Member Governments in preparing correct proposals in the right format for various ships' routeing and ship reporting systems.

Re-establishment of the Ships' Routeing Working Group

3.28 After preliminary discussion as reported in paragraphs 3.1 to 3.27 above, the Sub-Committee re-established the ships' routeing working group and instructed it, taking into account any decisions of, and comments and proposals made in Plenary as well as relevant decisions of other IMO bodies (item 2), as follows:

- .1 consider all documents submitted under item 3 regarding routing of ships, mandatory ship reporting and related matters and prepare routing and reporting measures, as appropriate and recommendations for consideration and approval by Plenary;
- .2 consider the issue of AIS-reporting and advise the Sub-Committee on the provisions and/or procedures for the confirmation of reporting through AIS;
- .3 consider the relevant documents considered under agenda item 14 – Bulk carrier safety, namely MSC 74/5/2 (United Kingdom), MSC/Circ.1043, MSC/Circ.1017, MSC/Circ.995, MSC 75/WP.19, annex 2 and resolution A.893(21) and advise the Sub-Committee on the following:
 - .1 the full implications including its practicability of an active reporting system of the position of all ships taking into consideration MSC/Circ.1043 on Guidance on ships' daily reporting of their positions to their companies; and
 - .2 the potential for erosion of the master's discretion in current weather routing arrangements taking into consideration resolution A.893(21) – Guidelines for voyage planning including regulation V/34 of SOLAS;
- .4 consider the outcome of STW 33 regarding conflicting actions in collision avoidance and advise the Sub-Committee for further action on the matter;
- .5 consider the proposal to prepare a draft MSC circular on Guidance for the preparation of proposals on Ships' routing and ship reporting systems (NAV 48/1/1, annex 2) and advise the Sub-Committee, as appropriate;
- .6 take into account the role of the human element guidance as updated at MSC 75 (MSC 75/24, paragraph 15.7) including the Human Element Analysing Process (HEAP) given in MSC/Circ.878/MEPC/Circ.346 in all aspects of the items considered; and
- .7 submit a report to Plenary on Thursday morning.

Report of the working group

3.29 Having received the working group's report (NAV 48/WP.2 and Corr.1), the Sub-Committee took action as summarized hereunder.

New Traffic Separation Schemes (TSSs)

Traffic separation schemes for the Southern Red Sea

3.30 The Sub-Committee agreed to the proposed new traffic separation schemes, with some improved description of these TSSs, as given in annex 2, which the Committee is invited to adopt.

Traffic Separation Scheme off Cape La Nao

3.31 The Sub-Committee agreed to the proposed new traffic separation scheme with some corrections to the description of the new TSS, as given in annex 2, which the Committee is invited to adopt.

Traffic Separation Scheme off Cape Palos

3.32 The Sub-Committee agreed to the proposed new traffic separation scheme with some correction to the description of the new TSS, as given in annex 2, which the Committee is invited to adopt.

Amendments to the existing Traffic Separation Schemes (TSSs)

Amendments to the Traffic Separation Schemes in the Gulf of Finland

3.33 The Sub-Committee agreed with the proposed amendments to the existing schemes, as given in annex 2, which the Committee is invited to adopt.

Amendment of the Traffic Separation Scheme in the Bay of Fundy and Approaches

3.34 The Sub-Committee agreed with the proposed amendments to the existing scheme, as given in annex 2, which the Committee is invited to adopt.

Amendment and extension of the existing separation scheme in the Strait of Bab el Mandeb for the Southern Red Sea

3.35 The Sub-Committee agreed with the proposed amendments to the existing scheme, as given in annex 2, which the Committee is invited to adopt.

Routeing measures other than TSSs

Routeing measures off the Mediterranean coast of Egypt

3.36 The Sub-Committee was of the opinion that the proposed routeing measures should be established as Recommended Routes and corrected the description of the routes accordingly. The Sub-Committee agreed to the recommended routes, as given in annex 3, which the Committee is invited to adopt.

Recommended tracks and precautionary area for the Southern Red Sea

3.37 The Sub-Committee agreed to the proposed recommended tracks and precautionary areas for the Southern Red Sea, as given in annex 3, which the Committee is invited to adopt.

Implementation of the new and amended traffic separation schemes including routeing measures other than TSSs

3.38 The new and amended traffic separation schemes including routeing measures other than TSSs mentioned in above paragraphs 3.30 to 3.37 and given in annexes 2 and 3, which the Committee is invited to adopt, in accordance with resolution A.858(20), will be implemented at 0000 hours UTC six months after the adoption by the Committee.

Mandatory Ship Reporting Systems

Establishment of a Mandatory Ship Reporting System in the Baltic Sea (Gulf of Finland)

3.39 The Sub-Committee noted that in the description of the mandatory ship routing system the numbers of VHF channels were not given. These channels were presently indicated by the letters SS, XX and YY. The delegations of the Russian Federation and Finland indicated that they would inform the Committee at its next session of the correct VHF channel numbers to replace the letters indicated.

3.40 The Sub-Committee agreed to the proposed new mandatory reporting system, with some corrections to the description of the system, and prepared the draft MSC resolution on a mandatory ship reporting system in the Gulf of Finland, as given in annex 4, which the Committee is invited to adopt, in accordance with resolution A.858(20). The proposed implementation date of the system as indicated by Estonia, Finland and the Russian Federation is 1 July 2004.

Establishment of a Mandatory Ship Reporting System in the Adriatic Sea known as “ADRIATIC TRAFFIC”

3.41 The Sub-Committee noted that some questions were raised on the coverage for VHF communications in the southern part of the Adriatic Sea (sectors 1 and 2 of the operational area of the mandatory ship reporting system).

3.42 The delegation of Italy responded that in general ships transiting the Adriatic Sea would be able to communicate the required reports by VHF, but in any case ships could also use MF and HF communications. All communications for ship reporting on VHF, MF and HF will be free of charge in accordance with the requirements of regulation V/11(10) of SOLAS.

3.43 In the introduction of the proposal by Croatia, the following observation was made and noted by the Working Group: “As a factual matter, ships that will participate in the reporting system are bound for or are leaving a port in the Adriatic Sea.”

3.44 The Sub-Committee agreed to the proposed new mandatory reporting system, with some corrections to the description of the system and its annexes, and prepared the draft MSC resolution on a mandatory ship reporting system in the Adriatic Sea, as given in annex 5, which the Committee is invited to adopt, in accordance with resolution A.858(20). The system will enter into force at 0000 hours UTC on 1 July 2003 as indicated by Italy and Croatia after the adoption by the Committee.

Recommendations for navigation

Navigation through the Entrances to the Baltic Sea: Amendment of resolution A.579(14) and resolution A.620(15)

3.45 In considering the proposed draft MSC resolution on Recommendation on navigation through the entrances to the Baltic Sea (NAV 48/3/3, annex), the Sub-Committee recognized that the proposed date for implementation of the Recommendation would be before the date of the twenty-third session of the Assembly which could revoke the existing resolutions A.579(14) and A.620(15). Therefore, the Sub-Committee agreed to change the proposed implementation date from 1 May 2003 to 1 December 2003.

3.46 The Sub-Committee agreed with some changes to the proposed MSC resolution on Recommendation on navigation through the entrances to the Baltic Sea, as given in annex 6, which the Committee is invited to adopt.

3.47 The Sub-Committee also invited the Committee to note that the above draft resolution supersedes resolution A.579(14) and resolution A.620(15).

Navigation through the Gulf of Finland traffic area

3.48 The Sub-Committee agreed with the proposed recommendation on navigation through the Gulf of Finland traffic area with some corrections, as given in annex 7, which the Committee is invited to adopt, and which will be implemented at 0000 hours UTC, six months after adoption by the Committee in accordance with resolution A.858(20).

Nautical Charts

3.49 The Sub-Committee noted the suggestion by Norway to consider giving co-ordinates of proposed ships' routing and the coverage of ship reporting systems in an universal datum compatible with ECDIS, such as the International Terrestrial Reference Frame (ITRF).

3.50 The delegation of Norway further informed the Sub-Committee that Norway would submit a suitable proposal on this issue to NAV 49.

Automatic Identification Systems (AIS) reporting

3.51 The Sub-Committee discussed the issue of Automatic Identification Systems (AIS) reporting in context of the requirements for mandatory ship reporting. After consultation with the Chairman of the Technical Working Group, it was noted that in principle mandatory ship reports can be transmitted by AIS. Some further development of AIS transmissions may be necessary to accommodate the full formats of mandatory ship reporting messages.

3.52 The Sub-Committee confirmed that it was possible to receive a response by AIS on mandatory ship reports transmitted by AIS. Furthermore it was confirmed that it was possible to retrieve on board the mandatory ship report transmitted by AIS.

3.53 Noting resolution MSC.43(64) – Guidelines and criteria for ship reporting systems, as amended by resolution MSC.111(73) and the above-mentioned technical capabilities and noting also that masters are obliged to report, the Sub-Committee was of the opinion that shore authorities should also be obliged to acknowledge receipt of ship reports.

Guidance on conflicting actions in collision avoidance

3.54 The Sub-Committee was of the opinion that it would not be productive to approach the STW Sub-Committee again with a request to develop guidance on this issue for nautical training establishments.

3.55 The Sub-Committee recalled that the cause of conflicting actions in collision avoidance was considered at the forty-sixth session of the Sub-Committee and had resulted in an amendment to Rule 8(a) of the COLREGS. The explanation for the amendment of Rule 8(a) was reflected in paragraph 4.24 of the report of the forty-sixth session (NAV 46/16).

3.56 The Sub-Committee was of the opinion that it was important to inform mariners of this matter and therefore prepared a draft SN circular, given at annex 8, which the Committee is invited to approve for circulation to ship masters, navigating officers and nautical training establishments.

Proposals on ships' routeing and ship reporting systems

3.57 The Sub-Committee considered document NAV 48/1/1, annex 2 on Guidance Note on the preparation of proposals on Ships' routeing and ship reporting systems and corrected and amended the Guidance Note given in annex 2 of document NAV 48/1/1 and prepared a draft MSC circular, as given in annex 9, which the Committee is invited to approve.

3.58 The Sub-Committee agreed that the Guidance Note should be distributed as a document for each session of the Sub-Committee and instructed the Secretariat to distribute the above mentioned MSC circular as an annotation to the agenda for each of its sessions.

4 INTEGRATED BRIDGE SYSTEMS (IBS) OPERATIONAL MATTERS

Guidance for Integrated Bridge Systems (IBS) operational aspects

4.1 The Sub-Committee recalled that, at its forty-fourth session (NAV 44/14, paragraph 7.26) it had noted the information provided by Finland (NAV 44/INF.3) on the operational and design standards for integrated navigation systems (INS) which highlighted the close relationship between integrated navigation systems (INS) and integrated bridge systems (IBS), and invited Finland to use the information given in NAV 44/INF.3 with the aim of producing an MSC circular at a future session of the NAV Sub-Committee and invited the Committee to include an item on IBS operational aspects in the Sub-Committee's work programme. MSC 70 subsequently decided to include this new item in the Sub-Committee's work programme with a completion date of 2001.

4.2 The Sub-Committee further recalled that at its forty-seventh session, it had considered NAV 47/4 (Finland) as a basic document for a draft MSC circular on Guidance for Integrated Bridge Systems (IBS) operational aspects and noted comments from Japan that the document should be re-arranged to, in particular, separate technical requirements from operational requirements and mandatory carriage requirements from voluntary carriage of equipment, and concluded that more studies were needed to generate guidelines on an overall integrated system. Taking into account the above, NAV 47 invited the Committee to extend the target completion date for agenda item "Integrated bridge system (IBS) operational aspects" to 2002.

4.3 The Sub-Committee considered the report of the Technical Working Group (NAV 48/4, paragraphs 2.1 to 2.2) and the revised proposal by Finland, Japan and Sweden (NAV 48/4/2) on Guidance for Integrated Bridge Systems (IBS) operational aspects.

4.4 The Sub-Committee agreed that the revised proposal by Finland, Japan and Sweden (NAV 48/4/2) should be used as a basic document to prepare a draft MSC circular on Guidance for Integrated Bridge Systems (IBS) operational aspects.

4.5 The Sub-Committee further agreed that this item be passed on to the Technical Working Group for action, as appropriate.

Presentation of navigational information

4.6 The Sub-Committee recalled that at its forty-seventh session, it had invited IEC to develop a standard for the presentation of navigational information, being of the opinion that this standard should harmonize the following:

- .1 display and interaction of objects;
- .2 multifunction displays;
- .3 co-location, merging, processing, fusion of graphical information; and
- .4 indication of quantity, status, integrity and accuracy of information.

MSC 75 had endorsed the action of the Sub-Committee.

4.7 The Sub-Committee considered the submission by IEC (NAV 48/4/1) giving details on progress within the IEC on standards for the presentation of navigational information. The Sub-Committee noted that IEC had set up new Working Group 13 (Displays for the presentation of navigation related information) in Technical Committee 80 (Maritime navigation and radiocommunication equipment and systems). The Working Group was well supported with representatives from 10 national standards committees; Canada, Finland, France, Germany, Japan, Norway, the Russian Federation, Sweden, the United Kingdom and the United States. Experts from other IEC Working Groups responsible for ECDIS, radar and plotting aids, AIS and INS together with experts from and the IHO Colors and Symbols Maintenance Working Group (C&SMWG) and the IHO/IEC Harmonization Group for Marine Information Objects are participating. The Working Group had also invited representation from IALA.

4.8 The Sub-Committee noted with appreciation the progress made to date and once again requested IEC to finalize the task by the end of 2003 as mentioned in their document, particularly in view of the possibility of accelerated timescales for the implementation of AIS due to maritime security concerns.

4.9 The Sub-Committee further agreed that this item be passed on to the Technical Working Group for action, as appropriate.

Guidelines for the display and integration of AIS target information

4.10 The Sub-Committee recalled that at its forty-seventh session, it considered the Technical Working Group's report (NAV 47/WP.1/Add.1) including a proposal by IEC (NAV 47/4/1) and agreed SN/Circ.217 on Interim Guidelines for the display and integration of AIS target information and instructed the Secretariat to disseminate it with immediate effect given that the first date of AIS employment was 1 July 2002 to allow manufacturers to timely develop the relevant equipment and functions and to allow mariners to acquaint themselves with the use of integrated information from the first date of AIS implementation. MSC 75 endorsed the action taken.

4.11 The Sub-Committee further recalled that at its forty-seventh session, it welcomed the offer of the delegation of the United Kingdom to provide additional justification to the Committee to add a new item "Requirements for the display and use of AIS information on shipborne navigational displays" to the Sub-Committee's work programme and simultaneously the appropriate submission to NAV 48.

4.12 The Sub-Committee noted that MSC 75 considered documents by Denmark, Germany, the Netherlands and Sweden (MSC 75/6/2) and IHO and IALA (MSC 75/6/5), expressing concern over the unco-ordinated display of some essential navigational information in current bridge equipment, including lack of appropriate symbology, and proposing that, for harmonization purposes of the information presentation in a consistent manner on the bridge, the IMO/IHO harmonization group on ECDIS (HGE) should be tasked to consider presentation aspects, review studies which address aspects of display systems and advise IMO as to whether they are compatible with the overall system concept of ECDIS. There was some discussion on the matter and MSC 75 noted that there was almost equal support for the aforementioned proposals and the views of other delegations supporting the on-going work of the IEC Working Group 13 (Displays for the presentation of navigation-related information) tasked by NAV 47. MSC 75, accordingly, decided to refer documents MSC 75/6/2 and MSC 75/6/5 to NAV 48 for consideration under its agenda item 4 on "Integrated bridge systems (IBS) operational matters" to clarify the relevant operational and technical issues involved, including a review of the progress made by IEC, and report to MSC 76.

4.13 The Sub-Committee observed that the present situation with regard to AIS and related issues was as follows, namely:

- .1 the revised SOLAS chapter V entered into force on 1 July 2002;
- .2 resolution A.917(22) on Guidelines for the onboard operational use of shipborne Automatic Identification Systems (AIS) on AIS operational matters was adopted by A.22 in November 2001; and
- .3 it was important that progress was made in the development of detailed operational "Requirements for the display and use of AIS information on shipborne navigational displays", bearing in mind the completion date of 2004.

4.14 As requested by MSC 75, the Sub-Committee considered documents by Denmark, Germany, the Netherlands and Sweden (MSC 75/6/2) and IHO and IALA (MSC 75/6/5), expressing concern over the uncoordinated display of some essential navigational information in current bridge equipment, including lack of appropriate symbology, and proposing that, for harmonization purposes of the information presentation in a consistent manner on the bridge, the IMO/IHO harmonization group on ECDIS (HGE) should be tasked to consider presentation aspects, review studies which address aspects of display systems and advise IMO as to whether they are compatible with the overall system concept of ECDIS.

4.15 There was some discussion on the matter, but the Sub-Committee was of the opinion that IEC has made good start in developing standards for the presentation of navigational information, and also noted that at this moment in time there was no substantial support for re-activating the IMO/IHO harmonization group on ECDIS (HGE).

Establishing Technical Working Group

4.16 Having also considered agenda items 8, 9, 10, 11 and relevant subitems under agenda item 18, which also were deemed to be within the remit of the Technical Working Group, the Sub-Committee re-established the Technical Working Group and instructed it, taking into account any decisions of, and comments and proposals made in Plenary to consider all relevant documents submitted under agenda items 4, 8, 9, 10, 11 and all relevant subitems under item 18 to undertake the following tasks:

- .1 finalize a draft MSC circular on guidance for Integrated Bridge Systems (IBS) operational aspects, using NAV 48/4/2 (Finland, Japan and Sweden) as a basic document and taking into account comments made at Plenary (agenda item 4);
- .2 consider NAV 48/4/1 (IEC) and advise on the relevant operational issues involved for the display and integration of AIS target information (agenda item 4);
- .3 prepare as appropriate, recommendations, opinions and liaison statements to appropriate ITU bodies (agenda item 11);
- .4 consider NAV 48/18 (Sweden and the United States) and finalize draft Guidelines for installation of Automatic Identification System (AIS) and advise on a format in which Guidelines should be issued (agenda item 18);
- .5 consider NAV 48/18/2 (United States) and finalize a draft MSC resolution for adoption of performance standards for AIS equipment not meeting the requirements of resolution MSC.74(69) (agenda item 18);
- .6 consider NAV 48/2/2, annex 1 including its annex and prepare a draft MSC resolution for adoption of performance standards for a ship security alarm installation including the issue of false alerts (agenda item 18);
- .7 consider NAV 48/2/2, annex 2 and advise on the most appropriate long range tracking and reporting system (agenda item 18);
- .8 advise on the issue of security of the AIS equipment against outside interference (MSC 75/17/2/Add.1) (agenda item 18);
- .9 consider MSC 75/17/2 and Add.1 and the draft regulation XI-2/5 developed by the MSWG (MSC 75/WP.18, paragraph 46) and advise on the means of raising alarm on ships under terrorist attack including the issue of false alerts (agenda item 18);
- .10 consider MSC 75/6/3 and NAV 48/INF.7 (Germany) and advise on the procedure for Introducing and maintaining AIS binary messages and prepare any questions on the issue to IALA, if appropriate (agenda item 18);
- .11 progress work on the feasibility study of mandatory carriage of VDRs on existing cargo ships, taking into consideration NAV 48/4 (Technical Working Group), NAV 48/8 (United Kingdom), NAV 48/8/1 (Japan), NAV 48/8/2 (Germany and Sweden), NAV 48/8/3 and NAV 48/8/5 (Brazil), NAV 48/8/4 (ICS), NAV 48/INF.5 (Japan), NAV 48/INF.6 (CIRM) and NAV 47/7/2 (United Kingdom) (agenda item 8);
- .12 refine further performance standards for radar reflectors, after considering NAV 48/4 (Technical Working Group), NAV 48/9 (United Kingdom) and NAV 48/9/1(ISF), as appropriate, and taking into account the Guidelines in MSC/Circ.930 MEPC/Circ.364 (agenda item 9);
- .13 give preliminary consideration to the review of performance standards for radar equipment, after considering NAV 48/4 (Technical Working Group), NAV 48/10 (IALA) and NAV 48/9/1(ISF), as appropriate (agenda item 10) taking into account the outcome of DE 45 (DE 45/27, paragraphs 9.1 to 9.11) on Low-powered homing devices for liferafts on ro-ro passenger ships (agenda item 18); and

- .14 consider NAV 48/16 and MSC 75/22/4 (United Kingdom) and start work on Requirements for the display and use of AIS information on shipborne navigational displays (agenda item 18).

Report of the Technical Working Group

4.17 Having received the technical working group's report (NAV 48/WP1/Add.1), the Sub-Committee took action as summarised hereunder.

Guidance for Integrated Bridge Systems (IBS) operational aspect

4.18 The Sub-Committee agreed the draft MSC circular on Guidance for the operational use of Integrated Bridge Systems (IBS) covering the operational aspects only, set out in annex 10, and invited MSC 76 to approve it.

4.19 The Committee was invited to delete agenda item "Integrated bridge systems (IBS) operational aspects" from the Sub-Committee's work programme, as the work was completed.

4.20 The Sub-Committee concurred with the Working Group's conclusion that the existing definitions of IBS as defined in resolution MSC.64(67), Annex 1, and in IEC Publication 61209 were far too broad and vague and by using the existing definition it was not always clear whether a ship was fitted with an IBS or not.

4.21 The Sub-Committee was informed that the delegation of the Netherlands would consider making an appropriate submission to the Committee proposing to include in the Sub-Committee's work programme a new high priority item "Revision of performance standards for IBS".

4.22 Having agreed that the development of appropriate model courses/standards would be required for training in the operational use of IBS, the Sub-Committee invited MSC 76 to instruct the STW Sub-Committee to consider the issue taking into account the draft MSC circular when approved by the Committee.

Presentation of navigational information

4.23 It was noted that IEC would welcome any guidance that the Sub-Committee might provide on operational/technical requirements to assist maritime safety and ship operation through improved presentation of navigational information.

4.24 The IEC observer informed the Sub-Committee that the IEC Technical Committee 80 Working Group 13, which was preparing an International standard dealing with displays for the presentation of navigation related information for the use on ships, was becoming aware of the operational issues involved in the display of AIS information. This new standard, IEC 62288, will include a database, which will provide consistency to:

- .1 symbols used on displays;
- .2 colours used on displays;
- .3 abbreviations; and
- .4 controls

for use on the ship's bridge.

The Working Group 13 was aware of the potential overload of information to mariners and saw a future need for a composite navigation display that integrated information derived from two or more systems such as Radar and AIS or ECDIS and AIS. IEC will present their findings on this matter to NAV 49 for its consideration.

4.25 The Sub-Committee agreed that the above operational aspects were some of the relevant issues involved for the display and integration of AIS target information.

4.26 Meanwhile, the Sub-Committee also observed that technical issues and, in particular, new technologies, should be considered and taken into account when developing operational standards and requirements.

4.27 Therefore, the Sub-Committee agreed the prepared technical issues relating to the operation of IBS, set out in annex 11, which were separated from the operational issues, in order to be dealt with by the appropriate international organizations and invited IEC to consider them in addition to the operational issues when developing the relevant standards.

4.28 As the aforementioned issues, as contained in annex 11 are expressed only in a conceptual form, IEC was invited to extract the relevant technical requirements within the scope of the existing Performance Standards and SOLAS requirements, and inform the Sub-Committee accordingly.

5 PLACES OF REFUGE

5.1 The Sub-Committee recalled that at its forty-seventh session, it agreed that apart from the decision of MSC 74 for the NAV Sub-Committee to be the co-ordinating Sub-Committee, COMSAR Sub-Committee should be invited to provide the initial input for further progress and MEPC should be informed about the progress in the matter. NAV 47 also agreed that in case it was necessary at later stage other IMO bodies such as SLF, STW, DE and FSI Sub-Committees and the SPI Working Group could be requested to provide further inputs.

5.2 The Sub-Committee further recalled that at its forty-seventh session, in approving, the general framework indicating in broad terms the subjects (NAV 47/13, annex 19), it agreed that this list should not be considered to be exhaustive and invited Member Governments, intergovernmental and non-governmental organizations to submit comments and proposals for consideration at its next session.

5.3 The Sub-Committee noted that the Committee at its seventy-fifth session (MSC 75/24) decided the following:

- .1 having noted the outcome of the recent consideration of this issue by the Legal Committee approved the terms of reference for work on places of refuge (NAV 47/13, annex 18) and referred the relevant part of document MSC 75/2/1/Add.1 to NAV 48 for detailed consideration;
- .2 endorsed that, for the time being, only the COMSAR Sub-Committee should be invited to provide initial input on the places of refuge issue; and noted that the MEPC had been informed about progress accordingly; and
- .3 approved, in principle, the proposed general framework concerning future work on places of refuge (NAV 47/13, annex 19). It also instructed NAV 48 to take

account of MSC/Circ.892 on Alerting of SAR Authorities, when discussing places of refuge matters; and to inform COMSAR 7 accordingly.

5.4 The Sub-Committee noted further that this was a very important issue, which had also been earlier emphasised by the Secretary-General in his opening remarks at its present session.

5.5 The Sub-Committee considered in general the outcome of by LEG 83, A 22, FAL 29, COMSAR 6, MEPC 47, LEG 84 and MSC 75 and the submissions by France (NAV 48/5) and ISU (NAV 48/5/1). In addition, the Sub-Committee also considered in detail, the outcome of the eighty-fourth session of the Legal Committee (MSC 75/2/1/Add.1) and MSC/Circ.892 on Alerting of SAR Authorities.

5.6 The Sub-Committee agreed that the document submitted by France (NAV 48/5), which had been developed based on the framework agreed by NAV 47 and approved by MSC 75 could be used as the basic document for further work in developing and streamlining the guidelines.

Establishment of a Working Group

5.7 After a preliminary consideration of the issue, the Sub-Committee established a Working Group to:

- .1 consider the documents NAV 48/5 (France), NAV 48/5/1 (ISU) and MSC/Circ.892 on Alerting of SAR Authorities and all decisions of Plenary and other IMO bodies;
- .2 take into account the issues highlighted in the Plenary among others:
 - terminology and harmonization
 - definition (including safety of those involved)
 - sovereignty
 - neutrality
 - consistency with other IMO instruments
 - decision-making and procedures
 - financial implications
 - liability and compensation;
- .3 using NAV 48/5 (France) as the basic document, further review and streamline the draft guidelines for action of master in need of places of refuge; guidelines for actions expected of coastal States and guidelines for the evaluation of risks associated with the provision of places of refuge, including consideration of a draft resolution on the establishment of Maritime Emergencies Reception Centre (MERC);
- .4 provide information for the work of COMSAR 7 concerning the involvement of SAR services in the places of refuge process;

- .5 formulate/specify issues or questions to be referred to other IMO bodies specifically those on legal and financial aspects of ports of refuge;
- .6 take into account the role of the human element guidance as updated at MSC 75 (MSC 75/24, paragraph 15.7) including the Human Element Analysing Process (HEAP) given in MSC/Circ.878/MEPC/Circ.346 in all aspects of the items considered; and
- .7 submit a report to Plenary on Thursday morning.

Report of the working group

5.8 Having considered the report of the working group (NAV 48/WP.5), the Sub-Committee took action as summarized hereunder.

5.9 The Sub-Committee, having decided to use NAV 48/5 (France) as the basic document, reviewed the draft guidelines for action of the master in need of places of refuge; guidelines for actions expected of coastal States and guidelines for the evaluation of risks associated with the provisions of places of refuge, including consideration of a draft resolution on the establishment of Maritime Assistance Services (MAS) as an alternative title to the originally proposed title Maritime Emergency Reception Centre (MERC).

5.10 The Sub-Committee agreed that where safety of life was involved, the provisions of the SAR Convention should be followed. The Sub-Committee recognized that there might be a situation wherein there would be an overlap between SAR operations and the application of these Guidelines and agreed that in such cases SAR operations take priority. The Sub-Committee also took into consideration other issues raised by various members including the provisions of MSC/Circ.892 on Alerting of SAR Authorities and noted the progress report on the draft Guidelines on places of refuge for ships in need of assistance along with the draft Assembly resolution, as well as the draft Assembly resolution on the establishment of Maritime Assistance Services (MAS), set out in annexes 12 and 13 respectively.

5.11 The delegation of the Bahamas, supported by other delegations, emphasised the importance of recognizing the possible adverse effects on neighbouring states of refusing a ship entry to a place of refuge. This would be a particular problem in an enclosed sea area. Those making a decision on whether to allow entry should bear these consequences in mind. The point should be stressed within the Guidelines.

5.12 The Sub-Committee agreed to forward the progress report on the draft Guidelines to the Committee, MEPC and the Legal Committee for information and action, as appropriate with a view to adoption by the twenty-third session of the Assembly. The Sub-Committee further invited the Committee to forward the draft Assembly resolution and the draft Guidelines to COMSAR 7 with a view to establishing as to whether these conflict with existing SAR procedures, in which case MSC 77 should be advised accordingly.

5.13 This being a high-priority item, the Sub-Committee also requested the Committee to authorize NAV 49 to submit the final text of the Guidelines directly to A 23 taking into account any proposals and comments thereon by the Committee, COMSAR 7, MEPC and the Legal Committee.

5.14 The Sub-Committee noted that the Legal Committee was considering the issues relating to liability and compensation for damage arising from entry of a ship in need of assistance into a place of refuge including the possible need to identify as to whether there was a need for any additional instrument to cover the gaps in areas not addressed in existing instruments for liability and compensation.

5.15 The Sub-Committee requested the Committee to invite the Legal Committee to consider the work in progress from the point of view of the issues within its competence and, in particular, with respect to the provision of financial security to cover either expenses which the coastal State may have incurred or to provide adequate compensation to meet any liabilities of the shipowner which may arise.

6 REVISION OF FISHING VESSEL SAFETY CODE AND VOLUNTARY GUIDELINES

6.1 The Sub-Committee noted that MSC 74 had instructed it, following a request by SLF 43, to review and prepare final texts of relevant chapters of the draft revised fishing vessel Safety Code and Voluntary Guidelines prepared by the SLF Sub-Committee, once SLF 44 had agreed on the final draft text. MSC 74 had therefore agreed to include, in the work programmes of and in the provisional agendas for FP 46, COMSAR 6, NAV 48, DE 45 and STW 33, a high priority item on "Revision of the fishing vessel Safety Code and Voluntary Guidelines", with a target completion date of 2003.

6.2 The Sub-Committee noted also that it was instructed to review and prepare the final texts of the relevant chapters and forward any proposed amendments to SLF 46 for co-ordination purposes.

6.3 The Sub-Committee noted further that SLF 44 agreed with the view of the delegation of Japan that, on matters covered by the 1993 Torremolinos Protocol, the standards contained in the fishing vessel Safety Code should not exceed those of the Protocol and that Sub-Committees should take this view into account when reviewing both the draft Code and the Voluntary Guidelines.

6.4 The Sub-Committee had before it information by the Secretariat (NAV 48/6), outlining which chapters and annexes of the draft revised fishing vessel Safety Code and Voluntary Guidelines, the Sub-Committee had been requested to review and including the relevant texts in the annex to the document.

Establishment of a drafting group

6.5 After preliminary consideration of document NAV 48/6 (Secretariat) reporting on the outcome of SLF 44 on the revision of the above-mentioned Code and Voluntary Guidelines, the Sub-Committee established a Drafting Group with a view to consider and, if possible, finalize the texts of relevant chapters of the above-mentioned draft revised Code and Voluntary Guidelines and instructed it:

- .1 to review the navigational provisions of the draft Code and Guidelines set out in annexes 1, 2 and 3 to document NAV 48/6 taking into account comments and decisions made in Plenary and bearing in mind the SLF's decision referred to in paragraph 6.3 above; and
- .2 if possible, to prepare a draft final text for consideration at Plenary.

Outcome of the drafting group

6.6 Having considered the report of the drafting group (NAV 48/WP.3), the Sub-Committee took action as summarized hereunder.

6.7 The Sub-Committee, after making further modifications to annexes 1 and 2 of NAV 48/WP.3, agreed the proposed amendments to the draft revised fishing vessel Safety Code and the Voluntary Guidelines. Regarding the proposed amendments to Annexes VIII and IX to the existing fishing vessel Safety Code, noting that, in order to get a more consolidated Code, all, not just some, relevant performance standards should be included, the Sub-Committee decided to instruct the Secretariat to undertake the inclusion of all relevant performance standards in the Annex to the Fishing Vessel Safety Code and submit the report covering all the proposed amendments to SLF 46. The consolidated text is given at annex 14 (NAV 48/19/Add.1 refers).

6.8 The Sub-Committee noted that, regarding paragraphs 1.1.6 of chapter I of the draft revised Fishing Vessel Safety Code and 1.1.3 of chapter 1 of the draft revised Voluntary Guidelines respectively (annexes 1 and 2 of NAV 48/WP.3), with the definition of “fishing vessel” in paragraph 1.2.2.1 within those annexes, paragraphs 1.1.6 and 1.1.3 mentioned above could be deemed redundant. However, bearing in mind that these chapters are on general provisions and other sub-committees may have different views on this, the Sub-Committee decided to keep them as they are, and instructed the Secretariat to inform the SLF Sub-Committee accordingly.

6.9 As the work on this agenda item had been completed the Sub-Committee invited the Committee to delete this item from its work programme (see also agenda item 16, paragraph 16.5.1.1.1 refers).

7 ANCHORING, MOORING AND TOWING EQUIPMENT

7.1 The Sub-Committee recalled that at its forty-seventh session, the observer from IACS stated that as requested by MSC 74, IACS would be submitting relevant documents to DE 45, whilst the observer from IMPA informed NAV 47 of its intention to send a circular letter to its members on this issue and inform the Sub-Committee of the outcome.

7.2 The Sub-Committee further recalled that at its forty-seventh session it had considered on a preliminary basis the proposals outlined in the document MSC 73/18/8 (Australia) and was of the opinion that in the absence of more detailed proposals it was not possible to make progress at this session, and it further requested Members to submit proposals on the issue for detailed consideration at NAV 48 bearing in mind the target completion date of 2003.

7.3 The Sub-Committee noted that DE 45 discussed, in general, where exactly in the SOLAS Convention the new regulation should be placed, i.e., whether in part C of chapter II-1, as proposed by Australia and Canada (DE 45/16), or in part A-1 of chapter II-1, as advocated by other delegations, and also questions regarding a retroactive application of the new regulations to existing ships. Taking into account the issues raised, including the issue of application of the proposed SOLAS regulation to new and existing ships, DE 45 agreed to further consider the proposed SOLAS regulation at the next session and invited submissions from Members and international organizations to DE 46. DE 45 also noted in this connection that IACS was in the process of developing Unified Requirements on the matter.

7.4 The Sub-Committee further noted that the Secretariat was instructed to inform the NAV Sub-Committee of the outcome of this discussion and of the issues raised in document DE 45/16 (Australia and Canada), in particular the matter of appropriate communications between the master, pilot and tug operators to ensure that all towing and mooring equipment was used in accordance with any limitations arising from its design, construction and condition.

7.5 The Sub-Committee also noted that no other specific proposals had been submitted under this agenda item except the referral of the document DE 45/16 (Australia and Canada) as decided by DE 45, wherein the Sub-Committee has been tasked to address the issue of appropriate communications between the master, pilot and tug operators to ensure that all towing and mooring equipment is used in accordance with any limitations arising from its design construction and condition.

7.6 The observer from INTERTANKO supported by some delegations stated that new proposed requirements for standardized anchoring, mooring and towing equipment should not be applied retrospectively to existing vessels, although the full value of applying such requirements to new buildings was recognized.

7.7 After some discussion, the Sub-Committee agreed to once again invite IACS and IMPA to submit relevant information.

7.8 The observers from IACS and IMPA informed the Sub-Committee that matters were in hand, and IACS and IMPA would submit the required information on the issue.

7.9 The Sub-Committee was of the opinion that in the absence of more detailed proposals it was not possible to make progress at this stage.

7.10 The Sub-Committee invited Members to submit relevant proposals for detailed consideration at NAV 49, bearing in mind the target completion date of 2003.

8 FEASIBILITY STUDY ON CARRIAGE OF VDR ON EXISTING CARGO SHIPS

8.1 The Sub-Committee recalled that at its forty-seventh session, as instructed by MSC 73, it commenced work on a feasibility study on the carriage of VDRs on existing cargo ships, in accordance with the terms of reference specified in paragraph 3 of resolution MSC.109(73) on Carriage of voyage data recorders (VDRs) on existing cargo ships (MSC 73/21, annex 17), namely:

- .1 to carry out the feasibility study, taking into account such factors as:
 - .1 practicability;
 - .2 technical problems relating to the retrofitting of VDRs;
 - .3 adequacy of existing performance standards, including the possible development of simplified standards;
 - .4 experience in the use of VDRs on ships already fitted with them, including data that could not have been obtained without VDR; and
 - .5 relevant financial implications, including a cost benefit analysis,

- .2 if the study clearly demonstrates the compelling need for mandatory carriage of VDRs on existing cargo ships, to prepare appropriate draft amendments to chapter V of the Convention and associated performance standards, for consideration by the Committee and action as appropriate; and
- .3 finalize the study not later than 1 January 2004.

In this context, MSC 73 also invited Member Governments concerned to encourage shipowners to install VDRs on existing cargo ships, on a voluntary basis, so that wide experience might be gained from their use, and submit data to the NAV Sub-Committee to enable it to conduct the study.

8.2 The Sub-Committee noted that at its forty-seventh session, it considered proposals by the United Kingdom (NAV 47/7/2), Germany, Finland and Sweden (NAV 47/7/4) and Japan (NAV 47/7/6, NAV 47/7/7 and NAV 47/7/8). Majority of the delegations who spoke in the plenary generally supported the Japanese proposal that storing AIS data and Bridge Audio in a protective capsule like EPIRB would be reasonable for VDR with some additional modification of the input to VDR.

8.3 The Sub-Committee also noted that at its forty-seventh session, the Chairman of the Technical Working Group made a verbal report on feasibility study of mandatory carriage of VDRs on existing cargo ships that there was a need for more information to assist the study particularly concerning costs and benefits. In the Working Group's report, the Japanese proposal was supported by many members with some addition of the input data to VDR. Members were invited to consider the report of the Technical Working Group, when circulated, and submit comments and proposals thereon for consideration at NAV 48.

8.4 The Sub-Committee further noted that MSC 75 (MSC 75/24, paragraph 6.17) approved MSC/Circ.1024 on Guidelines on voyage data recorder (VDR) ownership and recovery.

8.5 The Sub-Committee considered the report of the Technical Working Group (NAV 48/4, paragraphs 3.1 to 3.8) and the proposals by NAV 48/8 (United Kingdom), NAV 48/8/1 and NAV 48/INF.5 (Japan), NAV 48/8/2 (Germany and Sweden), NAV 48/8/3 and NAV 48/8/5 (Brazil), NAV 48/8/4 (ICS), NAV 48/INF.6 (CIRM) and NAV 47/7/2 (United Kingdom).

8.6 The Sub-Committee further also took into consideration the additional information provided by CIRM on VDR equipment and installation costs and technical solutions.

8.7 There was some discussion on the issue in the Plenary and the majority generally supported the proposal by Japan, Germany and Sweden that in particular an EPIRB type float-free capsule would be reasonable for the protection capsule. The Sub-Committee agreed that real life case studies should be used in the preparation of the feasibility study, if applicable and available. The studies should concentrate on a cost/benefit analysis, whether the protective capsule should be fixed or float free including the demonstrated need for fitting VDR on existing cargo ships.

8.8 The Sub-Committee further agreed that this item be passed on to the Technical Working Group for consideration and comments, as appropriate.

Report of the technical working group

8.9 Having received the technical working group's report (NAV 48/WP.1/Add.2), the Sub-Committee took action as summarized hereunder.

8.10 The Sub-Committee recalled that MSC 73 had requested it, as a matter of urgency, to carry out a feasibility study on the mandatory carriage of Voyage Data Recorders (VDRs) on existing cargo ships and for the study to be finalised by 1 January 2004 (resolution MSC.109(73)). A number of documents on this subject had been submitted to both NAV 47 and NAV 48 and there had been extensive discussions at plenary sessions and within the Working Group. Although substantial progress towards the required feasibility study had been made, it was recognized that there was now an urgent need to co-ordinate the various views and to seek wider opinion and clarification in a number of areas.

8.11 The Sub-Committee therefore agreed that a Correspondence Group be established with the objective of providing a consolidated draft text of the required feasibility study which reflected the information received from members of the group. The text should be accompanied by a succinct report summarising the work and indicating which Members had provided input to the process. The provision of such a draft consolidated text should substantially reduce the volume of documents that need to be submitted to the next session of the Sub-Committee.

8.12 The Sub-Committee further agreed on the proposed terms of reference for the Correspondence Group as follows:

The Correspondence Group should advance the feasibility study as instructed by resolution MSC.109(23). This would be achieved by collating information discussed at previous meetings and the existing documentary submissions and co-ordinating the work of delegate members of the group. In certain areas this may involve further research including, but not limited to, the following key areas:

.1 Review of Data Items to be Recorded

Marine Accident Investigators from member states should be invited to prepare a series of reports based on their experiences of transcribing a VDR recorded incident using all the information currently called for in the existing performance standard and then, as a comparison, using just the basic parameters of (say) date, time, position, course speed, bridge audio and radar. The aim would be see which of these parameters are essential.

.2 Protective Capsule

Discussions and views on the merits of employing a float-free capsule, fixed capsule or EPIRB should be advanced with additional material being researched on practical experiences. For example, it is suggested that a trial on the recovery of a float-free device may be scheduled. Members of the group could gain first hand experience of the exercise which could form the basis of a valuable input document. In addition input should be encouraged from the manufacturers to provide costed alternatives.

.3 Costs/Benefits

Considerable concern has been expressed about the perceived difficulties and costs involved in fitting VDRs to existing cargo ships. Group members should be

encouraged to invite manufacturers to produce costed proposals for a representative range of vessels, including specific notes and comments on the practical aspects of installation and interfacing.

8.13 The Sub-Committee invited the Committee to endorse the establishment of a correspondence group and invited Members, which have a particular interest in this subject, to contact the co-ordinator of the group.*

9 REVISION OF PERFORMANCE STANDARDS FOR RADAR REFLECTORS

9.1 The Sub-Committee recalled that at its forty-seventh session, the Technical Working Group had given preliminary consideration to the issue of "Revision of the Performance Standards for Radar Reflectors" and the outcome of the Technical Working Group's discussion related to this item would be circulated under the appropriate agenda item to NAV 48. Members were invited to consider the report of the Technical Working Group, when circulated, and submit comments and proposals thereon for consideration at NAV 48 bearing in mind the target completion date of 2003.

9.2 The Sub-Committee considered the report of the Technical Working Group (NAV 48/4, paragraphs 3.9 to 3.11 and annex 1) and the proposals by the United Kingdom (NAV 48/9) and ISAF (NAV 48/9/1) regarding the revision of performance standards for radar reflectors.

9.3 The Sub-Committee agreed that this item be passed on to the Technical Working Group for consideration and comments, as appropriate.

9.4 Due to heavy work load and the lack of time, the Technical Working Group was unable to consider this item in detail. The outcome of the Working Group's discussion related to these documents concerning revision of performance standards for radar reflectors would be circulated under the appropriate agenda item to NAV 49.

9.5 Members were invited to consider the report of the Technical Working Group, when circulated, and submit comments and proposals thereon for consideration at NAV 49.

10 REVIEW OF PERFORMANCE STANDARDS FOR RADAR EQUIPMENT

10.1 The Sub-Committee recalled that at its forty-seventh session, it considered annex 5 to COMSAR 5/14 concerning the threat to current maritime safety radionavigation services in the frequency bands 2.9 – 3.1 GHz and 9.2 - 9.5 GHz and document NAV 47/8/2 (United Kingdom) on the future use of maritime radar and noted the points raised by COMSAR 5 that manufacturers would need considerable time to develop solutions to the envisaged ITU requirements for unwanted emissions and that, in liaison with the ITU, there should be extreme caution over the impositions of unwanted emission limits on a safety service within an unrealistic timescale and

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that there should be extreme caution with regard to the sharing of exclusive radiodetermination frequency bands, in which safety services operate, with other services.

10.2 The Sub-Committee further recalled that at its forty-seventh session, it had also pointed out that the impact on the operation of the maritime radionavigation safety service needed to be carefully examined should further sharing be envisaged by other non-radar services. NAV 47 agreed that consideration should be given to the review of the requirements for radars in the light of their current performance requirements contained in the relevant IMO resolutions and concluded that, as a minimum, the aspects of the performance standards for radar needed to be studied, are as follows:

- .1 minimum range and range discrimination;
- .2 detection of SARTs and RACONs;
- .3 target detection including performance under anomalous propagation and clutter conditions;
- .4 probability of detection and false alarm rate;
- .5 hazard and acceptable risk of interference to maritime radar;
- .6 the provision of hazard warning of fixed and floating objects; and
- .7 maximum range.

NAV 47 was of the opinion that this work should be completed by 2003 to allow its conclusions to be used within the framework of current ITU-R studies, that are due to be completed by end 2006.

10.3 The Sub-Committee also recalled that at its forty-seventh session, it had noting the instruction of MSC 74 (MSC 74/24, paragraph 9.16) to review the requirements for radars, invited the Committee to add the topic of a review of the performance standards for radars to the Sub-Committee's work programme for completion in 2 sessions. MSC 75 had endorsed the proposal and decided to include, in the Sub-Committee's work programme and the provisional agenda for NAV 48, a high priority item on "Review of the performance standards for radar equipment", with a target completion date of 2003. MSC 75 also agreed that any aspects related to the subject might be raised under this item. In addition, the outcome of the NAV 47 Technical Working Group's discussion related to this item was circulated under the appropriate agenda item to NAV 48 (NAV 48/4, paragraphs 4.1 to 4.3). Members were invited to consider the report of the Technical Working Group, when circulated, and submit comments and proposals thereon for consideration at NAV 48 bearing in mind the target completion date of 2003.

10.4 The Sub-Committee considered the report of the Technical Working Group (NAV 48/4, paragraphs 4.1 to 4.3) and the proposals by IALA (NAV 48/10) and ISAF (NAV 48/9/1) regarding the review of performance standards for radar equipment.

10.5 The Norwegian delegation informed the Sub-Committee of its intention to submit a proposal to NAV 49 for amending the existing performance standard for shipborne radar equipment. Norway considered that there are four aspects in the current performance standard which have a compelling need for improvement, namely:

- .1 better detection in situations with clutter (precipitation and sea);
- .2 better detection of small targets;
- .3 detection requirements in proportion to vessel speed instead of distance alone; and
- .4 better signal processing for fast moving targets.

In Norway's opinion the requirements in the present performance standard are flawed in many respects, and might prevent improvements made possible by technological advances. An amended performance standard should focus on operational aspects and functional requirements. The radar performance standard should not obstruct development of new technology and has to be considered in accordance with the work on IBS and presentation of navigational information under agenda item 4. Norway further stated that it would carry out a study, including a user survey, and present the results in a submission to NAV 49.

10.6 The Sub-Committee agreed that this item be passed on to the Technical Working Group for consideration and comments, as appropriate.

10.7 Due to heavy work load and the lack of time, the Technical Working Group was unable to consider this item in detail. The outcome of the Working Group's discussion related to these documents concerning review of performance standards for radar equipment would be circulated under the appropriate agenda item to NAV 49.

10.8 Members were invited to consider the report of the Technical Working Group, when circulated, and submit comments and proposals thereon for consideration at NAV 49.

10.9 Taking into account the above, the Sub-Committee invited the Committee to extend the target completion date for the agenda item "Review of performance standards for radar equipment" to 2004 (paragraph 16.5.2 also refers).

11 ITU MATTERS, INCLUDING RADIOCOMMUNICATION ITU-R STUDY GROUP 8 MATTER

11.1 The Sub-Committee recalled that at its forty-seventh session, it considered document NAV 47/8 (Secretariat) containing a note from Working Party 8B to IMO and IALA with the attached draft revised Recommendation ITU-R M.1371 which had been submitted to the fastest possible ITU-R approval procedure. Taking into account comments and proposals made with respect to the procedure for updating the technical standards and configuration of the international application identifiers and the operating frequency channel management, NAV 47 prepared a liaison statement to ITU-R WP 8B requesting the appropriate clarifications and instructed the Secretariat to convey it to WP 8B and invited the Committee to endorse the action taken. MSC 75 (MSC 75/24, paragraph 6.22) endorsed the action of NAV 47.

11.2 The Sub-Committee noted that the Secretariat had submitted three documents (NAV 48/11, NAV 48/INF.3 and NAV 48/INF.8) on this matter, and agreed that this item be passed on to the Technical Working Group for action, as appropriate.

Report of the Technical Working Group

11.3 Having received the technical working group's report (NAV 48/WP.1/Add.2), the Sub-Committee took action as summarized hereunder.

Clarifications concerning a revision of Recommendation ITU-R M.1371 on Technical Characteristics for a Universal Shipborne Automatic Identification System (AIS) using Time Division Multiple Access in the VHF Maritime Mobile Band

11.4 In considering document NAV 48/11 (Secretariat), the Sub-Committee noted that in response to a liaison statement prepared by NAV 47 (Doc. 8B/104-E), ITU-R Working Group 8B, at its October/November 2001 meeting, had agreed that it would co-ordinate any proposed changes to the latest edition of Recommendation ITU-R M.1371 which could affect the IMO operational performance standards, given in IMO resolution MSC.74(69), Annex 3. Working Party 8B will additionally keep IMO informed of any changes to the latest edition of Recommendation ITU-R M.1371, which do not appear to affect the IMO performance standards.

Additionally, the ITU Radiocommunications Bureau had distributed Circular Letter 8/LCCE/103 addressing the AIS radio-frequency switching issues raised by IMO and urging Administrations to undertake the following steps:

- .1 where possible, to ensure that the frequencies 161.975 and 162.025 MHz are available for AIS use;
- .2 in navigable areas where the frequencies 161.975 and 162.025 MHz are unavailable for AIS use, to provide means for automatic switching of radio frequencies in accordance with Recommendation ITU-R M.1371-1, if at all possible; and
- .3 in navigable areas where frequencies 161.975 and 162.025 MHz are unavailable for AIS use and where no base stations exist, to notify IMO of the particulars of those areas, as well as the frequencies available for AIS use, so that IMO can take the steps described above.

11.5 The Sub-Committee also noted NAV 48/INF.8 (Secretariat) informing that WP.8B, at its eleventh meeting (1 to 7 May 2002), had considered document 8B/196 (Japan) proposing amendments to Recommendation ITU-R M.1371, with a view to clarifying the use of VHF DSC channel 70 for the regional AIS frequency management, and had requested IALA to consider the proposal, as a matter of urgency. The twelfth WP.8B meeting will take place in Geneva, Switzerland from 18 to 24 September 2002.

Revision of Recommendation ITU-R M.1461 on Procedures for determining the potential for interference between radars operating in the radiodetermination service and systems in other services

11.6 The Sub-Committee noted NAV 48/INF.3 (Secretariat) providing information that, in accordance with ITU-R Questions assigned to Study Group 8 for the period 2000-2002 by the ITU Radiocommunication Assembly, Working Party 8B, at its October/November 2001 meeting, had prepared a preliminary draft revision of Recommendation ITU-R M.1461, which would be finalized at WP.8B September 2002 meeting.

12 LARGE PASSENGER SHIP SAFETY: EFFECTIVE VOYAGE PLANNING FOR LARGE PASSENGER SHIPS

12.1 The Sub-Committee noted that MSC 73 (MSC 73/21, paragraph 4.14) noting, that there was still considerable disagreement within the maritime community on what constituted an *effective* voyage plan agreed to place a new item on "Effective voyage planning for large passenger ships" in the NAV Sub-Committee's work programme, with a target completion date of 2003 and agenda for NAV 47. NAV 47 noting, that no specific proposals have been submitted under this agenda item, invited Member Governments to submit proposals to NAV 48 to make progress on the matter, bearing in mind the target completion date of 2003.

12.2 The Sub-Committee further noted that MSC 75 reconvened the Working Group on Large Passenger Ship Safety (MSC 75/WP.12) and also considered issues regarding the Committee's method of work on the item, in particular whether a limited formal safety assessment (FSA) study should be conducted and whether there was a need for determining an acceptable level of risk, and reiterated its view that analytical tools, such as formal safety assessment, the human element analysing process, cost/benefit analysis, risk assessment and other methods, should be left to the discretion of the bodies assigned specific work on large passenger ship safety and was of the opinion that, at this stage, a substantial change in the Committee's method of work would be disruptive to the work of the subsidiary bodies concerned.

12.3 It was also noted that having noted the group's consideration on matters related to the outcomes of the Sub-Committees, MSC 75 agreed to forward the additional guidance set out in annex 3 to document MSC 75/WP.12 to the COMSAR, DE, FP, NAV, SLF and STW Sub-Committees for information purposes. With respect to the work to be accomplished, MSC 75 approved the updated work plan, as set out in annex 4 to document MSC 75/WP.12, and forwarded it to the COMSAR, DE, FP, NAV, SLF and STW Sub-Committees for action as appropriate. MSC 75 also instructed the Secretariat to convey document MSC 75/WP.12, to the relevant sub-committees for background purposes and further instructed the relevant sub-committees to keep the Committee informed of their progress on matters assigned.

12.4 The Sub-Committee noted the additional guidance and an updated work plan for the relevant Sub-Committees, as given in MSC 75/WP.12 (annexes 3 and 4) as developed by MSC 75, and observed that it had been requested to:

- .1 develop guidelines to improve quality and availability of hydrographic information for operation in remote areas;
- .2 determine whether additional bridge team resources are necessary for operation in high-density traffic areas; and
- .3 consider the need for guidance for the effective use of VTS technology.

12.5 The Sub-Committee further noted that with respect to the three aforementioned issues, a review of existing standards including the need for any additional standards for the safety of large passenger ships was necessary.

12.6 The Sub-Committee considered submissions by the United States (NAV 48/12 and NAV 48/INF.4), reporting the results of a gap analysis to identify areas in IMO instruments where gaps might exist, and noted that the United States had identified the following task as having gaps large enough to warrant further consideration for additional safety measures, and

recommending that the Sub-Committee consider additional measures for gaps related to the following task assigned to it:

- .1 Objective 9, Task 5 (existing and future ships), Quality and availability of hydrographic information for operation in remote areas: Develop guidelines or requirements to improve hydrographic information in remote areas, and invite IHO to investigate how the quality and availability of hydrographic data in remote areas can be improved.

12.7 The Sub-Committee expressed its appreciation to the United States for the gap analysis conducted on the various tasks assigned to it and agreed that the issue of the quality and availability of hydrographic data in remote areas needed further study.

12.8 The delegation of Norway was of the opinion that a "gap analysis" could be a suitable tool to use in a hazard identification process, but did not provide sufficient basis for drawing final conclusions. It further informed the Sub-Committee that Norway was in the process of commissioning a Formal Safety Assessment (FSA) study on safety of navigation of large passenger ships. However, so far only 75% of the necessary funding had been achieved, and Norway invited interested Administrations or organizations to co-operate. If and when the funding had been secured, the results of the FSA study could be produced within approximately one year.

12.9 The observer from IHO stated that IHO was prepared to carry out a study on how the quality and availability of hydrographic data in remote areas could be improved including a report on the current status of hydrographic surveys in remote areas and advise NAV 49 accordingly.

12.10 The Sub-Committee was also of the opinion that in the absence of more detailed proposals or guidance, it was not possible to make progress at this session.

12.11 The Sub-Committee accordingly decided the following:

- .1 invited IHO to carry out the aforementioned study and advise NAV 49 accordingly; and
- .2 invited Members to submit relevant proposals on the issues set out in paragraph 12.4 for detailed consideration at NAV 49, bearing in mind the target completion date of 2003.

13 MEASURES TO PREVENT ACCIDENTS WITH LIFEBOATS

13.1 The Sub-Committee noted that MSC 74 endorsed a proposal by DE 44 and decided to include, in DE's work programme, a high priority item on "Measures to prevent accidents with lifeboats", with a target completion date of 2004 as well as the same item in the provisional agenda for DE 45 and the relevant item in the work programmes of the FSI, NAV and STW Sub-Committees. In this context, DE 45 was instructed to develop a draft MSC circular inviting the attention of Member Governments to the problem and the need for taking appropriate action pending the development of an appropriate IMO guidance.

13.2 The Sub-Committee further noted also that MSC 74 also, having noted information provided in document MSC 74/INF.23 (SIGTTO, OCIMF and INTERTANKO) on the results of an investigation into lifeboat safety placing emphasis on determining the causes of lifeboat

incidents that resulted in injury to personnel and/or damage to property (the main findings of which pointed towards an urgent need for a review of the standards for the design, manufacture and maintenance of lifeboats and their auxiliary equipment), decided to refer document MSC 74/INF.23 to the DE Sub-Committee for consideration and appropriate action.

13.3 The Sub-Committee also noted that DE 45 developed a draft MSC circular on Accidents with lifeboats, which MSC 75 approved as MSC/Circ.1049.

13.4 The Sub-Committee reviewed MSC/Circ. 1049 and was of the opinion that it contained no substantive issues of relevance to the competence of the NAV Sub-Committee.

13.5 The Sub-Committee accordingly decided to request the Committee to delete this agenda item from its work programme.

14 MATTERS RELATED TO BULK CARRIER SAFETY

14.1 The Sub-Committee noted that MSC 74 under agenda item 5 (Bulk carrier safety), assigned various tasks to the COMSAR, NAV, DE and SLF Sub-Committees and, consequently, included, in these Sub-Committees' work programme, a high priority item on "Matters related to bulk carrier safety", with a target completion date of 2002; and included the same item in the provisional agendas for COMSAR 6, NAV 48, DE 45 and SLF 44.

14.2 The Sub-Committee further noted that MSC 74 also reviewed MSC 74/5/2 (United Kingdom) and took action as summarized hereunder (with reference to paragraphs of document MSC 74/5/2):

- .1 on whether IMO should require the compulsory daily reporting of the position of all ships (paragraph 5), MSC 74 recognized that an active reporting system would be an effective measure with no cost involved, and requested the NAV and COMSAR Sub-Committees to consider the full implications including its practicability;
- .2 concerning the recommendation to amend the United Kingdom's Mariners' Handbook NP100 as regards navigation in the dangerous semi-circle of a tropical revolving storm (paragraph 6), MSC 74 invited interested Member Governments and international organizations to contribute comments directly to the United Kingdom Administration. Any relevant findings could then be reported to the Committee for dissemination, if deemed appropriate;
- .3 with respect to the provision of advice to masters (paragraph 7), MSC 74 decided to deal with the matter when considering document MSC 74/5/6 (United Kingdom);
- .4 regarding the proposal to increase participation by ships in the WMO's Voluntary Observing Ships Scheme (paragraph 8), MSC 74 agreed that Member Governments should be encouraged to participate in the Scheme; and
- .5 on the information that weather routing agencies should give to masters (paragraph 9), MSC 74 was concerned about the potential for erosion of the master's discretion in current weather routing arrangements and decided to refer this recommendation to the NAV Sub-Committee for further consideration, taking

also into consideration the Guidelines for voyage planning, adopted by the Assembly by resolution A.893(21).

14.3 The Sub-Committee also noted that COMSAR 6 after some discussions of the issue and noting that it would take some time for automatic tracking/polling technology to be implemented, agreed to the draft MSC circular on Guidance on ships daily reporting of their positions to their companies, which was approved as MSC/Circ.1043 by MSC 75.

14.4 The delegation of the United Kingdom requested the Sub-Committee to consider the issue of developing a mandatory requirement regarding the daily reporting of the position of ships to their companies. The United Kingdom considered that compliance with such a requirement could be achieved using the ISM system. Regarding the amendment of the Mariners Handbook regarding navigation in the dangerous semi-circle of a tropical storm, the United Kingdom informed the Sub-Committee that it had received no comments from delegations on this issue and that it appeared there was little enthusiasm for taking the matter forward. Finally, the United Kingdom advised the Sub-Committee that it was intending to submit a paper to MSC 76 on the issue of developing guidance concerning participation by ships in weather observing and weather routeing programmes and a standard for the provision of weather routeing services.

14.5 The Sub-Committee noting that no specific proposals have been submitted under this agenda item and also that for the moment nothing other than the MSC/Circ.1043 on Guidance on ships' daily reporting of their positions to their companies approved by MSC 75 and resolution A.893(21) - Guidelines for voyage planning were available for reference to progress on this issue, decided to refer the issues on daily reporting of ship's position and the potential for erosion of the masters discretion in current weather routeing arrangements to the Ships' Routeing Working Group, with a request to advise the Sub-Committee on the following:

- .1 the full implications including its practicability of an active reporting system of the position of all ships taking into consideration MSC/Circ.1043 on Guidance on ships' daily reporting of their positions to their companies; and
- .2 the potential for erosion of the master's discretion in current weather routeing arrangements taking into consideration resolution A.893(21) - Guidelines for voyage planning including regulation V/34 of SOLAS.

Report of the Ships' Routeing Working Group

14.6 Having considered the report of the Ships' Routeing Working Group (NAV 48/WP.2, section 4), the Sub-Committee took action as summarized below.

Daily reporting of the position of all ships

14.7 The Sub-Committee was of the opinion that MSC/Circ.1043 was satisfactory to highlight the importance of daily reporting the position of ship to their companies. However, it was felt that a mandatory requirement for such reporting would not be desirable because it would be very difficult or nearly impossible to ensure and control the compliance with such a requirement.

Weather routeing arrangements

14.8 The Sub-Committee also considered the potential of erosion of the master's discretion in current weather routeing arrangements. The Sub-Committee was of the opinion that there were no

requirements or guidelines in IMO instruments, including resolution A.893(21) on Guidelines for voyage planning, which could be interpreted as erosion of the master's discretion in current weather routing arrangements, and also that regulation V/34.3 of SOLAS was satisfactory to guard against the erosion of the master's discretion.

14.9 The Committee was invited to delete the item "Matters related to bulk carrier safety" from the Sub-Committee's work programme, as the work on it had been completed (paragraph 16.5.1.2 also refers).

15 CASUALTY ANALYSIS

15.1 The Sub-Committee recalled that, at its forty-sixth session, as no specific action had been requested of it by FSI 8, it reiterated the opinion expressed at its forty-third session that any future casualty analysis prepared and conveyed to it for review should contain specific recommendations on possible action that should be taken.

15.2 The Sub-Committee noted that, FSI 10 in considering the proposed interactive process between the FSI Sub-Committee and other sub-committees, as illustrated in a graphical presentation set out in the annex to document FSI 10/9/3, to identify maritime safety and marine pollution issues, noted that the working group on casualty analysis had confirmed that:

- .1 if and when the FSI Sub-Committee agrees with the correspondence group analysts' findings on a potential problem, it should seek further information to identify trends on potential problems before reporting to the interested sub-committee;
- .2 once the FSI Sub-Committee confirms the identification of a specific issue, it should report its findings to the appropriate sub-committee along with a selection of extracts of investigation reports, relevant to the issue under consideration, with the corresponding annexes to MSC/Circ.953-MEPC/Circ.372;
- .3 the information collected should enable sub-committees to develop, if necessary, a series of questions on specific casualty issues for future insertion into the annexes to MSC/Circ.953-MEPC/Circ.372. These questions could, then, guide the casualty analysts to focus on issues raised by the various sub-committees;
- .4 the IMO database should be used to help identify trends in casualties and causes, which emphasizes the importance of reporting States completing the relevant sections of the annexes of MSC/Circ.953-MEPC/Circ.372; and
- .5 the lessons learned from the revised analysing process, presented in a suitable format on the IMO website, should be disseminated to the shipping community and, in particular, help the continuous process of improving the effectiveness of safety management systems.

15.3 The Sub-Committee also noted that, FSI 10 agreed to the graphical presentation of the interactive process to identify maritime safety and marine pollution problem issues, set out in annex 5 to document FSI 10/WP.1, and to forward the aforementioned graphical presentation to other sub-committees for information purposes.

15.4 The Sub-Committee observing that no specific action had been requested of it by FSI 10, took note of the graphical presentation of the interactive process to identify maritime safety and marine pollution problem issues in NAV 48/2/1, annex.

16 WORK PROGRAMME AND AGENDA FOR NAV 49

16.1 The Sub-Committee noted that MSC 75, endorsed a proposal by NAV 47 and decided to include, in the Sub-Committee's work programme and the provisional agenda for NAV 48, a high priority item on "Review of performance standards for radar equipment", with a target completion date of 2003. In relation to this new work programme item, MSC 75 agreed that any aspects related to the subject may be raised under this item.

16.2 The Sub-Committee also noted that having reinstated the item on "World-wide radionavigation system" in the Sub-Committee's work programme, MSC 75 instructed the Sub-Committee to indicate specific sub-items within it with appropriate target completion dates.

16.3 The Sub-Committee considered the issue and was of the opinion that the following sub-items be inserted under the item on "World-wide radionavigation system" in the Sub-Committee's work programme with a target completion date of 2005:

- .1 New developments in the field of GNSS, especially Galileo;
- .2 Review and amendment of IMO policy for GNSS (resolution A.915(22); and
- .3 Recognition of radio navigation systems as components of the WWRNS (resolution A.815(19).

16.4 The Sub-Committee further noted that MSC 75:

- .1 decided to include, in the Sub-Committee's and the FP, COMSAR, DE (co-ordinator) and SLF Sub-Committees' work programmes, a high priority item on "Review of the OSV Guidelines", with three sessions needed to complete the item;
- .2 decided to include, in the Sub-Committee's and the DE (co-ordinator) and COMSAR Sub-Committees' work programmes, a low priority item on "Revision of the forms of nuclear ship safety certificates", with two sessions needed to complete the item;
- .3 recalled its decision, under agenda item 12 (Ship design and equipment), to include, in the Sub-Committee's, DE (co-ordinator) and COMSAR Sub-Committees' work programmes and the provisional agendas for DE 46 and COMSAR 7, a high priority item on "Amendments to the DSC Code and 1994 HSC Code", with a target completion date of 2004, instructing NAV 48 to commence work on the matter;
- .4 recalled its discussion on the matter under agenda item 17 (Prevention and suppression of acts of terrorism against shipping) and decided to include, in the Sub-Committee's, DSC, COMSAR and STW Sub-Committees' work programmes and provisional agendas for DSC 7, COMSAR 7 and STW 34, a high priority item on "Measures to enhance maritime security", with a target

completion date of 2004, and instructed NAV 48 to commence the work on the matter (see also MSC 75/24, paragraph 17.109);

- .5 having considered document MSC 75/22/4 (United Kingdom) decided to include, in the work programme of the Sub-Committee and in the provisional agenda for NAV 48, a high priority item on “Requirements for the display and use of AIS information on shipborne navigational displays”, with a target completion date of 2004 and, in view of the fact that this proposal had been simultaneously submitted to NAV 48 by the United Kingdom (NAV 48/16), instructed NAV 48 to commence work on the subject; and
- .6 decided to refer document MSC 75/6/1(Norway) to NAV 48, instructing the Sub-Committee to consider the matter under its agenda item on “Any other business” and advise MSC 76 as appropriate.

16.5 Taking into account the progress made at this session, the decisions of MSC 75 and the provisions of the agenda management procedure, the Sub-Committee prepared a revised work programme and provisional agenda for NAV 49 (NAV 48/WP.4 and Rev.1) based on those approved by MSC 75 (NAV 48/2/2, annexes 3 and 4), as set out in annexes 15 and 16 respectively for consideration and approval by the Committee. While reviewing the work programme, the Sub-Committee agreed to invite the Committee to:

- .1 delete the following work programme items, as work on them has been completed.
 - .1.1 item H.5 Revision of the fishing vessel Safety Code and Voluntary Guidelines 2003
 - .1.2 item H.8 Measures to prevent accidents with lifeboats 2003
 - .1.3 item H.9 Matters related to bulk carrier safety; and 2002
 - .1.4 item L.2 Integrated bridge systems (IBS) operational aspects; 2002
- .2 extend the target completion date of the following work programme items:
 - .2.1 item H.408 Review of performance standards for radar equipment 2004
- .3 include three new work programme sub-items:
 - .3.1 item H.1.1 New developments in the field of GNSS, especially Galileo 2005
 - .3.2 item H.1.2 Review and amendment of IMO policy for GNSS (resolution A.915(22)) 2005
 - .3.3 item H.1.3 Recognition of radio navigation systems as components of the WWRNS (resolution A.815(19)) 2005

Arrangements for the next session

16.6 The Sub-Committee anticipated that Working Groups on the following subjects might be established at NAV 49:

- .1 Ships' Routeing (item 3);
- .2 Technical matters (items 4, 7, 8, 9 and 10); and
- .3 Maritime Security (item 12).

Date of the next session

16.7 The Sub-Committee noted that the forty-ninth session of the Sub-Committee has been tentatively scheduled to be held from 30 June to 4 July 2003.

17 ELECTION OF CHAIRMAN AND VICE CHAIRMAN FOR 2003

In accordance with rule 16 of the Rules of procedure of the Maritime Safety Committee, the Sub-Committee unanimously re-elected Mr. K. Polderman (The Netherlands) as Chairman and Dr. V.I. Peresypkin (Russian Federation) as Vice-Chairman for 2003.

18 ANY OTHER BUSINESS**Guidelines for installation of Automatic Identification System (AIS)**

18.1 The Sub-Committee noted that the intersessional meeting of the MSC Working Group on Maritime Security (ISWG), at its session (11-15 February 2002), agreed "to request MSC 75 to instruct NAV 48 to complete the technical specification for all AIS related standards in time for the December Conference" (MSC 75/17/1). The "Recommendation on performance standards for a universal shipborne automatic identification system (AIS)" was adopted in May 1998 as resolution MSC.74(69). The work of converting that performance standard and the applicable ITU-R recommendations into an International standard was then passed to International Electrotechnical Commission (IEC) Technical Committee 80 (TC80) Working Group 8 (WG8) to draft an international testing standard. The International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) is preparing Interim IALA Guidelines on AIS for shore based AIS stations.

18.2 The Sub-Committee considered a proposal by Sweden and the United States (NAV 48/18) outlining the need for guidelines for installation of shipborne AIS, and suggesting that IMO was the appropriate body for specifying standards for shipborne navigational equipment. Guidelines are needed to assist installers and surveyors in the safe and effective installation of onboard AIS. These are voluntary guidelines for use by those installing AIS equipment on ships, and are not intended to be used, and should not be used, as a standard for certifying installations on ships.

18.3 After a brief preliminary discussion, the Sub-Committee agreed that this subitem be passed on to the Technical Working Group for consideration and comments, as appropriate.

Report of the Technical Working Group

18.4 Having received the technical working group's report (NAV 48/WP.1 and NAV 48/WP.7)), the Sub-Committee took action as summarized hereunder.

Guidelines for installation of a Shipborne Automatic Identification System (AIS)

18.5 The Sub-Committee agreed draft Guidelines for installation of a Shipborne Automatic Identification System (AIS) and, bearing in mind that these Guidelines should be implemented on a voluntary basis, recommended issuing them in the form of an SN circular.

18.6 The Committee was invited to approve the draft SN circular and Guidelines for the installation of a Shipborne Automatic Identification System (AIS), set out in annex 17.

An enhanced Performance Standard for GPS to reduce vulnerability to interference

18.7 The Sub-Committee noted that MSC 73 in December 2000 through resolution MSC.112(73) adopted revised performance standards for Shipborne Global Positioning System (GPS) receiver equipment.

18.8 The Sub-Committee considered a proposal by IEC (NAV 48/18/1) proposing that the NAV Sub-Committee should investigate the improvements being made to the GPS system to reduce vulnerability to interference in view of the September 11th terrorist attacks and an increased awareness of the potential for not only natural and man-made but also deliberate interference to the GPS service. The United States DoD had already scheduled a service update into the GPS programme, in the coming years, with, amongst others, the addition of commercial frequencies services on both L2 and L5 in addition to that established on L1. These go some way to reducing the foreseen vulnerability to interference of receivers that can employ them. The IEC thus believe that there are advantages in providing the mariner with the option of having an enhanced Performance Standard for GPS receivers that employ these extra frequencies to enable improved interference protection and some anti-jamming and anti-spoofing capability. The IEC also sees this enhancement, particularly, as an essential extra aid in those waters and on those ships where an independent position fixing aid is absent or only in-frequently available. The enhanced GPS system could also provide more robust supplementary services such as timing (UTC) that can then be used, to advantage, in other navigational safety aids such as AIS. This would go some way to mitigate GPS dependency.

18.9 The Sub-Committee noted that this issue was not on its work programme, and the Committee's agreement was required before starting the amendment procedure. Accordingly, the Sub-Committee requested IEC to submit a proposal co-sponsored by a Member Government (in accordance with paragraph 14 of MSC/Circ.931 & MEPC/Circ.366 on Guidelines on the organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies) to MSC 76.

Draft performance standards for AIS equipment not meeting the requirements of resolution MSC.74(69)

18.10 The Sub-Committee noted that ITU, while completing its recommended standard on AIS, identified a Class B and other AIS derivatives that do not meet the IMO performance standards for AIS (resolution MSC.74(69)), but do provide useful navigation safety and security purposes.

18.11 The Sub-Committee considered a proposal by the United States (NAV 48/18/2) proposing adoption of draft performance standards for AIS equipment not meeting the requirements of resolution MSC.74(69), and suggesting that adequate care be taken in developing and producing Class B and other AIS derivatives so that they are not able to adversely affect the operation of all nearby AIS devices.

18.12 The Sub-Committee was of the opinion that consideration be given to providing guidance for the protection of AIS radio channels and agreed that this sub-item be passed on to the Technical Working Group for consideration and comments, as appropriate.

Report of the Technical Working Group

18.13 Having received the technical working Group's report (NAV 48/WP.1 and Add.2), the Sub-Committee took action as summarized hereunder.

Recommendation for the protection of the AIS VHF data link

18.14 Having concurred with proposals that steps should be taken to ensure the integrity of AIS radio channels and, after some discussion, the Sub-Committee agreed on the proposed draft MSC resolution on the issue.

18.15 Some delegates expressed concern about operative subparagraph .2 recommending Administrations to approve Class B AIS devices, because Recommendation ITU-R M.1371 is a large complex document. However, it was pointed out that Recommendation ITU-R M.1371 is written with separate sections applicable to Class A and Class B devices which reduces this complexity, and that the IEC was preparing a test standard for Class B devices which would assist Administrations in the future.

18.16 The Secretariat was instructed to liaise with ITU on this draft resolution and advise MSC 76 accordingly. The Committee was invited to adopt the draft MSC resolution on Recommendation for the protection of the AIS VHF data link, set out in annex 18 and to refer it to the ITU for information.

Amendment of the provisions on "Navigation Bridge Visibility" in SOLAS 74

18.17 The Sub-Committee noted that MSC 75 had for its consideration a proposal by Norway and IACS (MSC 75/6/1), suggesting that consideration be given to amending the definition of "length" in SOLAS chapter V, so that it could be determined with certainty at the design stage; and also that, as navigation bridge visibility is of particular importance in relation to collision avoidance, an appropriate and simple solution would be to introduce the definition of "length overall (LOA)", as used in COLREG 1972 (Rule 3(j)), and dealt with the matter under agenda item 22 (Work programme) in conjunction with document MSC 75/22/5 (MSC 75/24, paragraph 22.36).

18.18 The Sub-Committee further noted that in considering document MSC 75/22/5, whereby Norway suggested, subject to the Committee's decision, at MSC 75, on whether to amend SOLAS regulation V/2 concerning the definition of "length", to seek the advice of the NAV Sub-Committee on such a definition prior to making a decision on the issue; and document MSC 75/6/1 (Norway), proposing relevant amendments to SOLAS regulations V/2 and V/22.1, MSC 75 did not agree to the proposed amendments and decided to refer document MSC 75/6/1 to NAV 48, instructing the Sub-Committee to consider the matter under its agenda item on "Any other business" and advise MSC 76 as appropriate.

18.19 The Sub-Committee considered the proposal by Norway and IACS (MSC 75/6/1) proposing the following amendments to the revised SOLAS chapter V:

- .1 Add a new paragraph to regulation 2, Definitions, in SOLAS chapter V, as amended in 2000, with the following text:

“4 Length of a vessel means her length overall.”; and
- .2 Amend the introductory paragraph of regulation 22.1 as follows:

“Ships of not less than 45 m in length, as defined in regulation ~~II/3-12-2.4~~ 2.4 of this chapter, constructed on or after 1 July 1998, shall meet the following requirements.”

18.20 There was some discussion on the issue of "length" with a number of delegations supporting the Norwegian proposal.

18.21 The delegation of the United Kingdom pointed out that the term "length" is at two places in SOLAS regulation V/22.1, once in the chapeau regarding the application of the regulation and again in the requirement for the view of the sea surface from the conning position. The United Kingdom agreed that it was pragmatic to replace the term with length overall in the second instance. However, the use of length overall would not in their opinion be helpful when considering the application of enforcement of the regulation, as it was easier to change the length overall of a ship rather than the "load line" of the ship to avoid compliance with the regulation, noting especially the relevant relatively short length of 45 metres.

18.22 The Sub-Committee agreed to the proposed amendments to the revised SOLAS regulations V/2 and V/22.1 (see paragraph 18.19), as shown in the text set out in annex 19, and forwarded them to MSC 76 along with the associated draft MSC resolution for approval with a view to adoption at MSC 77, as appropriate.

Uniform wording for referencing IMO instruments

18.23 The Sub-Committee noted that MSC 75 having considered the outcome of the twenty-second session of the Assembly (MSC 75/22/1) in the context of resolution A.911(22) – Uniform wording for referencing IMO instruments and specific actions the Committee had been requested to take, instructed the Sub-Committees to be guided by the guidelines in resolution A.911(22) in their work as appropriate.

18.24 The Sub-Committee took note of the information above for future guidance in its work, as appropriate.

Amendments to the DSC Code and the 1994 HSC Code

18.25 The Sub-Committee noted that MSC 75 considered MSC 75/12/2 (Australia) proposing that amendments should be made to the 1994 HSC Code and the DSC Code to align their requirements with those of the 1974 SOLAS Convention and the 2000 HSC Code at the earliest reasonable opportunity, namely as part of the next revision of the 1994 HSC Code scheduled for 2005. Australia further suggested that, in the meantime, an MSC circular should be issued to bring these discrepancies to the attention of owners, flag States, port States, classification societies and others involved in the operation of craft covered by the DSC Code and the

1994 HSC Code. MSC 75, after discussion of the modified draft MSC circular on Proposed amendments to update the DSC Code and the 1994 HSC Code, agreed that there was a need to consider the draft circular further, noting the offer of Australia to submit a revised version of the draft circular to MSC 76, with a view to approval of the draft circular at that session. The Committee further decided to include, in the work programmes of the DE (co-ordinator), COMSAR and NAV Sub-Committees and the provisional agendas for DE 46 and COMSAR 7, a high priority item on “Amendments to the DSC Code and 1994 HSC Code”, with a target completion date of 2004, whilst instructing NAV 48 to commence work on the matter.

18.26 The Sub-Committee noting that Australia had offered to submit a revised version of the draft MSC circular to MSC 76 decided to await the approval of the draft circular at that session. It further invited Members to submit relevant proposals for detailed consideration at NAV 49, bearing in mind the target completion date of 2003.

Proper use of VHF channels at sea

18.27 The Sub-Committee noted that MSC 75 (MSC 75/24, paragraph 11.4 and annex 19) approved a draft Assembly resolution on Proper use of VHF channels at sea, for submission, subject to any comments/amendments provided by the NAV and/or STW Sub-Committees, to the twenty-third session of the Assembly for adoption, to revoke resolution A.474(XII).

18.28 The Sub-Committee was of the opinion that there was no need for any further review of the draft Assembly resolution on Proper use of VHF channels at sea.

Requirements for the display and use of AIS information on shipborne navigational displays

18.29 The Sub-Committee noted that the United Kingdom had followed up the discussion at NAV 47, when the Sub-Committee welcomed the offer from the United Kingdom, to make simultaneous submissions to MSC 75 and NAV 48 (NAV 47/13 paragraph 4.13). Accordingly, the United Kingdom had submitted a proposal to NAV 48 (NAV 48/16) and to MSC 75 on requirements for the display and use of AIS information on shipborne navigational displays.

18.30 The Sub-Committee also noted that having considered document MSC 75/22/4 (United Kingdom), proposing the development of comprehensive guidelines for the display and use of AIS information in a graphical format on navigational displays fitted to the bridge of ships, in order that AIS may realize its full potential without imposing an additional workload on the seafarers, MSC 75 decided to include, in the work programme of the Sub-Committee, a high priority item on “Requirements for the display and use of AIS information on shipborne navigational displays”, with a target completion date of 2004 and, in view of the fact that this proposal had been simultaneously submitted to NAV 48, instructed NAV 48 to commence work on the subject.

18.31 The Sub-Committee agreed that this subitem be passed on to the Technical Working Group for consideration and comments, as appropriate.

18.32 Due to heavy work load and the lack of time, the Technical Working Group was unable to consider this item in detail. The outcome of the Working Group's discussion related to these documents concerning requirements for the display and use of AIS information on shipborne navigational displays would be circulated under the appropriate agenda item to NAV 49.

18.33 Members were invited to consider the report of the Technical Working Group, when circulated, and submit comments and proposals thereon for consideration at NAV 49.

Maritime Security Issues

18.34 The Sub-Committee noted that MSC 75 approved in general the report of the Maritime Security Working Group (MSC 75/WP.18 and Add.1) and specifically instructed NAV 48 to:

- .1 complete technical specifications for all AIS related-standards;
- .2 advise on the issue of security of the AIS equipment against outside interference;
- .3 advise on a system for long-range tracking and identification taking into account the functional requirements, developed by the MSWG in this respect; and
- .4 advise on the means of raising alarm on ships under terrorist attack taking into account the work done by COMSAR 6 and DE 45 (MSC 75/17/2 and Add.1) and the draft regulation XI-2/5 developed by the MSWG (MSC 75/24, paragraph 17.90 and MSC 75/WP.18, annexes 1 and 6).

18.35 With regard to the draft performance standards for a ship security alarm installation, the Sub-Committee also noted that in view of the short period of time between adoption and entry into force of a ship security alarm requirement and the urgent need for a performance standard thereon, the MSWG at MSC 75 had tasked a small group to develop a draft performance standard for submission to COMSAR 7 for finalization together with some explanatory notes of the small group, as set out in document MSC 75/WP.18, annex 6.

18.36 The Sub-Committee further noted that MSC 75, noting that COMSAR 7 would meet after the Maritime Security Conference, requested Member Governments and international organizations concerned to consider, intersessionally, the above-mentioned draft performance standards and advise their delegations to MSC 76 accordingly, so that the performance standards may be adopted by the Committee at that session and promulgated by means of an MSC circular.

18.37 The Sub-Committee also took into consideration the instructions to it relating to AIS issues (i.e. 18.34.1 and 18.34.2) and noting the clarifications provided on “long range tracking and reporting” contained in MSC 75/WP.18, annex 8, MSC 75 agreed that this mandate related only to the security aspects of AIS and that work to be undertaken by the NAV Sub-Committee in this respect would be without prejudice to further work on the development of long range multifunctional AIS. In this context, special attention should be given to safety and vessel traffic management functions, as referred to in resolution A.917(22) on Guidelines for the onboard operational use of shipborne automatic identification systems, and in particular under paragraph 48 of the Guidelines.

18.38 The Sub-Committee agreed that this sub-item be passed on to the Technical Working Group for consideration and comments, as appropriate.

Report of the Technical Working Group

18.39 Having received the technical working group’s report (NAV 48/WP.1/Add.1 and Add.2), the Sub-Committee took action as summarized hereunder.

Security of the AIS equipment against outside interference

18.40 The Sub-Committee noted that the Working Group had briefly discussed the issue concerning security of the AIS equipment against outside interference and had pointed out that some information/inputs concerning possible electronic and mechanical jamming to affect the security of AIS equipment was needed.

18.41 Therefore, the Sub-Committee invited Members to submit their comments and proposals on the matter to the second session of the ISWG and COMSAR 7 for their consideration.

Ship security alert

18.42 The Sub-Committee noted the Working Group's view that the word "alarm" was defined in the Code on Alarms and Indicators with a different meaning from that intended by the MSWG and that the Working Group had, therefore, recommended that the word "alarm" should be substituted by the word "alert".

18.43 The Sub-Committee also noted that the Working Group had concurred with the opinion of the MSWG that existing radio equipment fitted on ships in compliance with the requirements of SOLAS chapter IV would need some modifications for a ship security alert and that dedicated equipment might be an alternative. It had, therefore, recommended that the reference to chapter IV was too prescriptive and should be deleted. It had also pointed out that the issue of survey and certification of the ship security alert installations would need to be addressed.

18.44 The Sub-Committee noted that the security alert was not intended to be sent to other ships and recommended that the shore destination be defined in the draft regulation XI-2/5.2.1. Furthermore, noting that the alert may be terminated by automatic or manual means depending on the radio system used, the Working Group had recommended that the draft regulation XI-2/5.2.4 should permit this.

18.45 The Sub-Committee noted that the Working Group, recalling the experience gained with the GMDSS in the inadvertent activation of distress alerts, was of the opinion that false ship security alerts would need to be considered in the operation of the ship security alert system. The Working Group had noted that draft regulation XI-2/5.3.1 included a requirement to prevent the inadvertent initiation of the alert but recommended not to require a design for unauthorized initiation.

18.46 Taking into account the above proposals and deliberations made on the issue, the Working Group had prepared a modified draft regulation XI-2/5, set out in annex 5 to NAV 48/WP.1/Add.1.

18.47 The Sub-Committee noted the Working Group's opinion expressed in the above paragraphs 18.42 to 18.45, and the modified draft regulation XI-2/5. The Sub-Committee briefly discussed the modified draft but decided to submit the text as prepared by the Working Group, set out in annex 20 to the second session of the ISWG and MSC 76, together with the comments expressed at the plenary as mentioned in paragraphs 18.48 to 18.55 below.

18.48 Regarding the performance standards for the ship security alert, the Sub-Committee noted that the Working Group had not agreed that "piracy/armed attack" signal would be suitable for use. A receiving shore station would be unable to differentiate between a distress of type "piracy/armed attack" and a security alert, whereas the two require a different response.

18.49 The Sub-Committee also noted that the Working Group had prepared a revised draft recommendation on performance standards for a ship security alert installation, set out in annex 21 and, noting that further technical details were required, invited Administrations to make their radio experts available for the meeting of the ISWG in September 2002.

18.50 The Sub-Committee, having considered the issue of different and separate means of alarms or alerts for piracy/armed attacks and security incidents respectively, recognized that it may be nearly impossible for the shipboard personnel to distinguish between the two kinds of attacks. One way to avoid any confusion would be to have only one kind of alarm/alert to be activated in such a situation. However, the Sub-Committee recognized that this was an operational decision which should be addressed by the second session of the ISWG on maritime security.

18.51 Similarly, it was unclear in this context who the alarm/alert should be addressed to, the flag State, which might be located at the other side of the world in relation to the location of the attack, or the coastal State, who might be under a more immediate threat and had to react expeditiously upon the alert received. It was also necessary to decide on the need for, and means of, authorization for a security alert. The possible use of modified GMDSS equipment might have to be spelled out more clearly in the regulation.

18.52 The Sub-Committee, recalling that the Committee had, in approving the report of the MSGWG (MSC 75/WP.18 and Add.1) *inter alia*, requested Member Governments and international organizations concerned to consider, at home, the draft performance standards for ship security alarm installations, given in annex 6 to document MSC 75/WP.18, and advise their delegations to MSC 76 accordingly, so that the performance standards may be adopted by the Committee and promulgated by means of an MSC circular, agreed that these issues needed to be considered at the second session of the ISWG, taking into account the recommendations of the Technical Working Group.

18.53 The Sub-Committee, also noting that the Technical Working Group, in the effort to clarify the technical implications for the fitting of such a security alert/alarm system, might have touched on the philosophy of this alert, therefore agreed to submit the relevant part of the working group's report together with the proposed amendments to the draft regulation XI-2/5 and the amended draft recommendation on performance standards (NAV 48/WP.1/Add.1, paragraphs 6.2 to 6.10 and annexes 5 and 6) to the second session of the ISWG for consideration and appropriate action and invited the Committee to note this.

18.54 The Sub-Committee further noted that the Working Group had agreed that possible use of the 406 MHz EPIRB for the ship security alert would require the development of standards and invited COSPAS-SARSAT to consider the matter and submit comments and proposals to COMSAR 7 for consideration.

18.55 According to the revised draft performance standards for a ship security installation (annex 6 to WP.1/Add.1), regulation XI-2/5 "Ship Security Alert" may be complied with by using GMDSS equipment (properly modified) or by fitting separate dedicated equipment. However, the delegation of Norway expressed the view that the text of regulation XI-2/5, as amended by the Sub-Committee, does not make it clear if the option of using GMDSS equipment implies having to fit an additional piece of equipment, or if this requirement may be complied with by using GMDSS equipment being part of the installation required by chapter IV. To eliminate this unclarity the delegation of Norway proposed to add a new paragraph 5 at the end of regulation XI-2/5 reading as follows:

"These requirements for a ship security installation may be complied with by using the radio installation fitted for compliance with the requirements of chapter IV, provided all requirements of this regulation are complied with".

This proposal was supported by other Administrations, but the Sub-Committee decided not to include the text proposed, even though no delegation expressed objections to the actual proposal.

Long-range tracking and reporting

18.56 The Sub-Committee noted that the Working Group had agreed with the functional requirements for a system for long-range identification and tracking for security purposes as proposed by the MSWG, namely that:

- .1 the system was intended to enhance the security of coastal States by providing information about vessel traffic in a timely manner to enable the State to take any appropriate action; and
- .2 the system should:
 - enable the identification and tracking of ships at sea;
 - provide the competent authority of the coastal State with the identity and position of the ship;
 - ensure that the information is provided to the competent authority in a secure and confidential manner, with due regard to commercial sensitivity;
 - not provide information to other ships; and
 - be capable of working with different densities of shipping traffic.

18.57 The Sub-Committee also noted the analysis of the use of Inmarsat-C equipment and long-range AIS equipment made by the MSWG but pointed out, however, that long-range AIS was a polled system similar to Inmarsat-C and not a broadcast system as identified by the MSWG. The Sub-Committee further noted that the Working Group had observed that the use of HF radio suggested by the MSWG would involve equipment to automatically select the correct operating frequency in order to provide an easy user interface and also for encryption in order to maintain confidentiality of the information.

18.58 The Sub-Committee noted that the Working Group had studied the comparison of the use of Inmarsat-C equipment and Long-Range AIS equipment made by the MSWG and advised that Inmarsat-C was the most appropriate existing system for security purposes. However, it had pointed out that ships equipped for operation in sea areas A1 and A2 may not carry Inmarsat-C equipment.

18.59 The Sub-Committee agreed to submit the above deliberations on the issue to the second session of the ISWG for consideration and appropriate action and invited MSC 76 to note this.

Introducing and maintaining AIS binary messages

18.60 The Sub-Committee recalled that at its forty-seventh session, it had agreed that there was a need to discuss, as a matter of urgency, the question of the presentation of navigational

information across different displays on the bridge in the context of operational requirements as well as the integration of information provided by navigational aids (e.g. AIS, ECDIS, gyro-compass, etc.).

18.61 The Sub-Committee noted that the United States (MSC 75/ISWG/5/7) had, in the course of deliberation of maritime security issues, proposed shortening the introduction period for AIS from 2008 to 2004. At the same time, the United States had proposed that a new AIS message could be introduced in the case a ship being hijacked by terrorists or pirates. With AIS offering a functionality of tailor made telegrams (such as for an alarm to notify authorities and other ships of the danger), the United States expressed the view that the system provided an excellent means to alert all ships in the vicinity of the one experiencing a problem. As work on the issue had to be done immediately, the matter should be put on the agenda of NAV 48.

18.62 The Sub-Committee further noted that MSC 75 also considered document MSC 75/6/3 in which Germany proposed that the AIS, whilst being primarily a means for positive identification and tracking of vessels (e.g. by transmitting and receiving static, dynamic and voyage-related data of ships as well as short safety-related messages), could provide the beneficial feature of binary messages as a means for safety-related automatic information exchange. These messages (also called "AIS telegrams") would be dedicated to generic and specific applications and may be broadcast on an international (of general interest) or national/regional/local, public or private, basis. There was considerable support for the German proposal and MSC 75, having agreed that it was necessary to consider carefully the procedure for introducing and maintaining AIS binary messages, further agreed to refer the German proposal (MSC 75/6/3) to NAV 48 for review under its agenda item 18 on "Any other business" and advise MSC 76 accordingly.

18.63 After a brief introduction of documents MSC 75/6/3 and NAV 48/INF.7 submitted by Germany, the Sub-Committee agreed to pass them on to the Technical Working Group for consideration and comments, as appropriate.

Report of the Technical Working Group

18.64 Having received the Technical Working Group's report (NAV 48/WP.1/Add.2), the Sub-Committee took action as summarized hereunder.

18.65 The Sub-Committee noted that the Working Group had considered documents MSC 75/6/3 and NAV 48/INF.7 concerning procedures for introducing and maintaining AIS binary messages and pointed out that "Binary Messages" were pre-defined information packages which enable ship-to-ship and shore-to-ship exchange of standard messages such as pilot request, current water level, etc. They are distinguished by a discrete number known as an "Application Identifier". The Working Group had noted that, in accordance with the provisions of Recommendation ITU-R M. 1371, IALA had responsibility for maintaining and publishing a record of the International Application Identifiers (IAIs).

18.66 The Sub-Committee also noted that by document MSC 75/6/3 Germany had proposed that the Sub-Committee should assess and approve the introduction and deletion of IAIs and that IMO should maintain up-to-date data base of the IAIs in use and make it available to all parties involved such as planners, developers, providers and consumers of AIS information.

18.67 In the course of discussions certain problems were noted particularly that:

- .1 not all current AIS equipment is capable of displaying the binary messages;

- .2 there is currently a proposed list of 60-80 IAIs to assess in order to accept 20-30 and this work is needed to be done urgently. Thereafter 3-5 IAIs a year are expected;
- .3 there may be significant practical problems in updating software in shipborne AIS installations as the list of IAIs changes;
- .4 the exercise may require a permanent agenda item for the Sub-Committee's work programme; and
- .5 there may be financial implications for the Organization which have not been assessed.

18.68 The Sub-Committee concurred with the Working Group's view that when selecting the IAIs, the focus should be on ship-to-ship and safety-related messages and it should be ensured that the VDL link would not be overloaded.

18.69 The Sub-Committee, referring to the Committee's decision on this issue, as reflected in paragraph 18.62 and taking into account the Group's deliberations above, agreed that a MSC/Circular confirming IMO's responsibility for the development, maintenance and administration of these messages and instructed the Secretariat to prepare an appropriate draft MSC Circular to this effect for consideration and approval by MSC 76 according to document MSC 75/6/3. The draft MSC circular on Maintenance and administration of AIS binary messages is given at annex 22.

18.70 The Sub-Committee, noting that the responsibility for the maintenance of the binary messages was currently with IALA and needed to be officially transferred to IMO and the need to carefully consider and develop administrative and other procedures which should apply, invited Members, Governments and IALA in the interim to make an inventory of all binary messages and advise NAV 49. Members were invited to consider the administrative and financial implications and submit relevant comments/proposals to NAV 49 for its consideration and further advice to the Committee.

18.71 The observer from IALA confirmed that IALA was ready to hand over the responsibility to IMO, and during the interim period IALA would continue to develop the AIS messages and would inform IMO accordingly.

Low-powered homing devices for liferafts on RO-RO passenger ships

18.72 The Sub-Committee noted that DE 45 considered a submission by Australia (DE 45/9/1), proposing an amendment to paragraph 4.1.5 of the LSA Code to incorporate carriage requirements for SARTs in liferafts and outlining a general wording in paragraph 5 of their paper; and a submission by ILAMA (DE 45/9/2), providing information on SARTs to assist the considerations of the Sub-Committee, in particular regarding fitting, mounting and activating of SARTs, maintenance and testing. DE 45 noted information by the delegation of the United States regarding recent discussions at COMSAR 5 concerning potential threats to the marine navigational radar spectrum due to upcoming ITU limits on unwanted radar emissions which would affect the ability of marine radars to trigger SARTs.

18.73 The Sub-Committee further noted that DE 45 also agreed that SARTs should be provided for every liferaft, not only for large ones. The Secretariat was instructed to inform the NAV and

COMSAR Sub-Committees of the decision taken, in particular in the light of upcoming ITU work on unwanted radar emissions.

18.74 The Sub-Committee agreed that this sub-item be passed on to the Technical Working Group for consideration and comments during its discussion of the review of performance standards for radar equipment (agenda item 10) (paragraphs 10.7 to 10.8 refer).

Regional Marine Electronic Highway in the East Asian Seas

18.75 The Sub-Committee recalled that at NAV 47, the Secretariat updated the information provided by MEPC 46 on the key elements and expected outputs of the new project for the Development of a Regional Marine Electronic Highway (MEH) in the East Asian Seas. At MSC 75, the Secretariat through information document MSC 75/INF.4 and a verbal presentation updated the information provided by MEPC 47. The project objective was to develop an Action Plan and a Project Brief for implementing the first phase regional MEH.

18.76 The Sub-Committee noted that consensus had been reached on the framework and the draft Project Brief of the Demonstration Project at the Second Project Steering Committee meeting held in Jakarta during May 2002. The Secretariat was in the process of preparing the final text of the Project Brief in full consultation with the World Bank and the National Focal Points of the littoral States. It was expected that the endorsement of the Project Brief by the Indonesia, Malaysia and Singapore would be done possibly towards the end of October 2002.

EXPRESSIONS OF APPRECIATION

18.77 The Sub-Committee expressed appreciation to the following delegates and observers and members of the Secretariat, who had recently relinquished their duties, retired or were transferred to other duties or were about to, for their invaluable contribution to its work and wished them a long and happy retirement or, as the case might be, every success in their new duties:

- Mr. Yuri Gunadi (Indonesia) (on transfer to other duties);
- Captain M. Pouliot (retiring IMPA President);
- Rear Admiral N.R. Guy (IHO) (on retirement);
- Captain A.J. Thomas (retiring IMPA Senior Vice President);
- Cdr. M. Woodroffe (ILF) (on retirement); and
- Mrs. T. Agonafir (Secretariat) (on retirement).

19 ACTION REQUESTED OF THE COMMITTEE

19.1 The Committee, at its seventy-sixth session, is invited to:

- .1 adopt, in accordance with resolution A.858(20):
 - .1 the proposed new traffic separation schemes, including associated routeing measures for the Southern Red Sea (paragraph 3.30 and annex 2*);
 - .2 the proposed new traffic separation scheme "Off Cape La Nao" (paragraph 3.31 and annex 2);

* All references are to paragraphs of, and annexes to, the report of NAV 48 (NAV 48/19)
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- .3 the proposed new traffic separation scheme "Off Cape Palos" (paragraph 3.32 and annex 2);
- .4 the amended traffic separation schemes "In the Gulf of Finland" (paragraph 3.33 and annex 2);
- .5 the amended traffic separation scheme, including associated routing measures, in the Bay of Fundy and Approaches (paragraph 3.34 and annex 2);
- .6 the amended traffic separation scheme, including associated routing measures, in the Strait of Bab el Mandeb (paragraph 3.35 and annex 2);
- .7 the recommended routes off the Mediterranean coast of Egypt (paragraph 3.36 and annex 3);
- .8 the recommended tracks and precautionary area for the Southern Red Sea (paragraph 3.37 and annex 3);
- .9 the proposed new mandatory ship reporting system "In the Gulf of Finland" (to be implemented as from 1 July 2004) (paragraph 3.40 and annex 4);
- .10 the proposed new mandatory ship reporting system "In the Adriatic Sea" (to be implemented as from 1 July 2003) (paragraph 3.44 and annex 5);
- .2 adopt the proposed MSC resolution on Recommendation on navigation through the entrances to the Baltic Sea (to be implemented as from 1 December 2003) (paragraphs 3.45 to 3.46 and annex 6);
- .3 adopt, in accordance with resolution A.858(20), the proposed Recommendation on navigation through the Gulf of Finland traffic area (paragraph 3.48 and annex 7);
- .4 note that, with respect to Automatic Identification Systems (AIS) reporting, the Sub-Committee confirmed the possibility of receiving responses by AIS on mandatory ships reports transmitted by AIS; and that it was of the opinion that shore authorities should also be obliged to acknowledge receipt of ship reports (paragraphs 3.52 and 3.53);
- .5 approve the draft SN circular on Dangers of conflicting actions in collision avoidance (paragraphs 3.56 and annex 8);
- .6 approve the draft MSC circular on Guidance note on the preparation of proposals on ships' routing and ship reporting systems; and endorse the Sub-Committee's instructions to the Secretariat that it should form part of the annotations to the agenda for each NAV session (paragraphs 3.57 to 3.58 and annex 9);
- .7 approve the draft MSC circular on Guidance for Integrated Bridge Systems (IBS) covering operational aspects only (paragraph 4.18 and annex 10);

- .8 instruct the STW Sub-Committee to develop appropriate model courses/standards in the operational use of IBSs taking into account the Guidance referred to in .7 above (paragraph 4.22);
- .9 endorse the Sub-Committee's action on technical issues relating to the operation of Integrated Bridge Systems (IBS) and its invitation to IEC to consider them in addition to operational issues, when developing relevant standards dealing with displays for the presentation of navigational information (paragraphs 4.27 and 4.28 and annex 11);
- .10 note the progress report on the draft Guidelines on places of refuge for ships in need of assistance along with the associated draft Assembly resolution as well as the draft Assembly resolution on the establishment of Maritime Assistance Services (MAS) (paragraphs 5.10 and 5.12 and annexes 12 and 13);
- .11 forward the draft Assembly resolution and the draft Guidelines to COMSAR 7 with a view to establishing whether there is any conflict with existing SAR procedures (paragraph 5.12 and annexes 12 and 13);
- .12 authorize the Sub-Committee to submit the final text of the Guidelines referred to in .10 above directly to A.23 taking into account any proposals and comments made thereon by the Committee, COMSAR 7, MEPC and the Legal Committee (paragraph 5.13);
- .13 invite the Legal Committee to consider the work in progress from the point of view of issues within its competence and, in particular, with respect to the provision of financial security to cover either expenses which the coastal State may have incurred or to provide adequate compensation to meet any liabilities of the shipowner which may arise (paragraph 5.15);
- .14 endorse the instructions of the Sub-Committee to the Secretariat to undertake the inclusion of all relevant performance standards in the Annex to the Fishing Vessel Safety Code and forward the consolidated text of the proposed amendments to the draft revised Fishing Vessel Safety Code and the associated voluntary Guidelines to SLF 46 (paragraph 6.7 and annex 14);
- .15 approve the draft SN circular and Guidelines for the installation of a shipborne Automatic Identification System (AIS) (paragraph 18.6 and annex 17);
- .16 adopt the draft MSC resolution on Recommendation for the protection of the AIS VHF data link; and instruct the Secretariat to refer it to ITU for information (paragraph 18.16 and annex 18);
- .17 approve the proposed amendments to SOLAS regulations V/2 and V/22.1 with a view to adoption at MSC 77 (paragraph 18.22 and annex 19);
- .18 approve the draft MSC circular on maintenance and administration of AIS binary messages (paragraph 18.69 and annex 22);
- .19 approve the report in general.

19.2 In reviewing the work programme of the Sub-Committee, the Committee is invited to consider the revised work programme suggested by the Sub-Committee (annex 14) in general and, in particular, to:

- .1 delete "Revision of the fishing vessel Safety Code and Voluntary Guidelines" as the task has been completed (paragraph 6.9);
- .2 delete "Measures to prevent accidents with lifeboats" as the task has been completed (paragraph 13.5);
- .3 delete "Matters related to bulk carrier safety" as the task has been completed (paragraph 14.9);
- .4 delete "Integrated bridge systems (IBS) operational aspects" as the task has been completed (paragraph 4.19);
- .5 extend the target completion date of "Review of performance standards for radar equipment" to 2004 (paragraph 10.9); and
- .6 include three new high priority work programme sub-items, namely
 - .1 "New developments in the field of GNSS, especially Galileo" with a target completion date of 2005 (paragraphs 16.3.1);
 - .2 "Review and amendment of IMO policy for GNSS (resolution A.915(22))" with a target completion date of 2005 (paragraphs 16.3.2); and
 - .3 "Recognition of radio navigation systems as components of the WWRNS (resolution A.815(19))" with a target completion date of 2005 (paragraphs 16.3.3).

19.3 The Committee is also invited to approve the proposed agenda for the Sub-Committee's forty-ninth session (annex 15), which has been developed using the agenda management procedure.

ANNEX 1

**AGENDA FOR THE FORTY-EIGHTH SESSION INCLUDING
A LIST OF DOCUMENTS**

1 Adoption of the agenda

NAV 48/1	-	Secretariat
NAV 48/1/1	-	Secretariat

2 Decisions of other IMO bodies

NAV 48/2	-	Secretariat
NAV 48/2/1	-	Secretariat
NAV 48/2/2	-	Secretariat

3 Routeing of ships, ship reporting and related matters

NAV 48/3	-	Egypt
NAV 48/3/1	-	Estonia, Finland and the Russian Federation
NAV 48/3/2 and Corr.1	-	Albania, Croatia, Italy, Slovenia and Yugoslavia
NAV 48/3/3	-	Denmark, Estonia, Finland, Germany, Poland, Russian Federation and Sweden
NAV 48/3/4	-	Yemen, Eritrea and Djibouti
NAV 48/3/5	-	Canada
NAV 48/3/6	-	Spain
NAV 48/3/7	-	Spain
NAV 48/INF.2	-	IHO
NAV 48/WP.2 and Corr.1	-	Report of the Ships' Routeing Working Group

4 Integrated bridge systems (IBS) operational aspects

NAV 48/4	-	Chairman of the Technical Working Group
NAV 48/4/1	-	IEC
NAV 48/4/2	-	Finland, Japan and Sweden
NAV 48/INF.7	-	Germany
NAV 48/WP.1/ Add.1	-	Report of the Technical Working Group
NAV 48/WP.7	-	Report of the Technical Working Group

5 Places of Refuge

NAV 48/5	-	France
NAV 48/5/1	-	ISU
MSC 75/2/1/Add.1	-	Secretariat
MSC/Circ.892	-	Alerting of SAR authorities
NAV 48/WP.5	-	Report of the Working Group on Places of refuge

6 Revision of Fishing Vessel Safety Code and Voluntary Guidelines

- | | | |
|-------------|---|---|
| NAV 48/6 | - | Secretariat |
| NAV 48/WP.3 | - | Report on the Drafting Group on Revision of Fishing Vessel Safety Code and Voluntary Guidelines |

7 Anchoring, Mooring and Towing Equipment

(no documents submitted)

8 Feasibility Study on Carriage of VDR on Existing Cargo Ships

- | | | |
|--------------------|---|---|
| NAV 48/4 | - | Chairman of the Technical Working Group |
| NAV 48/8 | - | United Kingdom |
| NAV 48/8/1 | - | Japan |
| NAV 48/8/2 | - | Germany and Sweden |
| NAV 48/8/3 | - | Brazil |
| NAV 48/8/4 | - | ICS |
| NAV 48/8/5 | - | Brazil |
| NAV 48/INF.5 | - | Japan |
| NAV 48/INF.6 | - | CIRM |
| NAV 48/WP.1/ Add.2 | - | Report of the Technical Working Group |

9 Revision of Performance Standards for Radar Reflectors

- | | | |
|------------|---|---|
| NAV 48/4 | - | Chairman of the Technical Working Group |
| NAV 48/9 | - | United Kingdom |
| NAV 48/9/1 | - | ISAF |
- (also considered under under item 10)

10 Review of Performance Standards for Radar Equipment

- | | | |
|------------|---|---|
| NAV 48/4 | - | Chairman of the Technical Working Group |
| NAV 48/10 | - | IALA |
| NAV 48/9/1 | - | ISAF |
- (also considered under item 9)

11 ITU Matters, including Radiocommunications ITU-R Study Group 8 Matters

- | | | |
|--------------------|---|---------------------------------------|
| NAV 48/11 | - | Secretariat |
| NAV 48/INF.3 | - | Secretariat |
| NAV 48/INF.8 | - | Secretariat |
| NAV 48/WP.1/ Add.2 | - | Report of the Technical Working Group |

12 Large Passenger Ship Safety: Effective Voyage Planning for Large Passenger Ships

- | | | |
|--------------|---|---------------|
| NAV 48/12 | - | United States |
| NAV 48/INF.4 | - | United States |

13 Measures to Prevent Accidents with Lifeboats

(no documents submitted)

14 Matters related to Bulk Carrier Safety

(no documents submitted)

15 Casualty Analysis

(no documents submitted)

16 Work Programme and Agenda for NAV 49

NAV 48/16	-	United Kingdom
NAV 48/WP.4 and Rev.1	-	Draft revised work programme and provisional draft agenda for NAV 49

17 Election of Chairman and Vice Chairman for 2003

(no documents submitted)

18 Any other business

NAV 48/18	-	United States
NAV 48/18/1	-	IEC
NAV 48/18/2	-	United States
MSC 75/6/1	-	Norway and IACS
MSC 75/24, annex 19	-	Report of MSC 75
NAV 48/WP.1 and Add.1, Add.2	-	Report of the Technical Working Group
NAV 48/WP.7	-	Report of the Technical Working Group

19 Report to the Maritime Safety Committee

NAV 48/WP.6 and Add.1, Add.2	-	Draft report to the Maritime Safety Committee
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ANNEX 2

NEW AND AMENDED TRAFFIC SEPARATION SCHEMES AND ASSOCIATED ROUTEING MEASURES

TRAFFIC SEPARATION SCHEMES FOR THE SOUTHERN RED SEA

(Reference charts: British Admiralty Charts Nos: 452 and 453

Note: These charts are based on World Geodetic System 1984 Datum (WGS 84))

The new traffic separation scheme east of Jabal Zuqar will consist of:

Two traffic lanes and one traffic separation zone between them.

The direction of navigation will be:

- a southbound traffic lane, 140°(T) as far as the turning line abeam of the 18.3 m shoal, thence 166°(T) to the southern limit of the scheme.
- a northbound traffic lane, 346°(T) as far as the turning line abeam of the 18.3m shoal, thence 320°(T) to the northern limit of the scheme.

Description of the new traffic separation scheme east of Jabal Zuqar Island:

(a) A separation zone bounded by a line connecting the following geographical positions:

(1)	14° 07'.28 N	042° 45'.96 E
(2)	14° 02'.76 N	042° 49'.85 E
(3)	13° 58'.21 N	042° 51'.00 E
(4)	13° 58'.55 N	042° 52'.30 E
(5)	14° 03'.76 N	042° 51'.00 E
(6)	14° 08'.27 N	042° 47'.10 E

(b) A traffic lane for southbound traffic between the separation zone and the following geographical positions:

(7)	14° 06'.49 N	042° 44'.98 E
(8)	14° 01'.93 N	042° 48'.94 E
(9)	13° 57'.97 N	042° 49'.95 E

(c) A traffic lane for northbound traffic between the separation zone and the following geographical positions:

(10)	14° 09'.40 N	042° 48'.42 E
(11)	14° 04'.88 N	042° 52'.35 E
(12)	13° 58'.94 N	042° 53'.83 E

NEW ROUTEING MEASURES FOR THE SOUTHERN RED SEA - TRAFFIC SEPARATION SCHEME WEST AND SOUTH OF HANISH AL KUBRA

(Reference charts: British Admiralty Charts Nos: 452 and 453

Note: These charts are based on World Geodetic System 1984 Datum (WGS 84))

The new traffic separation scheme west and south of Hanish al Kubra will consist of:

Two traffic lanes and one traffic separation zone between them.

The direction of navigation will be:

- a southbound traffic lane, 154°(T) as far as the turning line between the Three Foot Rock and the Haycock islands, thence 123°(T) to the eastern limit of the scheme.
- a northbound traffic lane, 309°(T) as far as the turning line between the Three Foot Rock and the Haycock islands, thence 333°(T) to the northern limit of the scheme.

Description of the new traffic separation scheme west and south of Hanish al Kubra:

(a) A separation zone bounded by a line connecting the following geographical positions:

(1)	13° 38'.33 N	042° 31'.78 E
(2)	13° 30'.95 N	042° 35'.60 E
(3)	13° 26'.61 N	042° 42'.18 E
(4)	13° 29'.12 N	042° 44'.22 E
(5)	13° 33'.20 N	042° 39'.08 E
(6)	13° 40'.15 N	042° 35'.50 E

(b) A traffic lane for southbound traffic between the separation zone and the following geographical positions:

(7)	13° 37'.40 N	042° 29'.93 E
(8)	13° 29'.82 N	042° 33'.88 E
(9)	13° 25'.22 N	042° 41'.05 E

(c) A traffic lane for northbound traffic between the separation zone and the following geographical positions:

(10)	13° 40'.82 N	042° 36'.90 E
(11)	13° 34'.06 N	042° 40'.38 E
(12)	13° 30'.25 N	042° 45'.18 E

NEW TRAFFIC SEPARATION SCHEME OFF CAPE LA NAO

(Reference chart: Spanish Hydrographic Institute 47, May 1995 2nd edition.

Note: This chart is based on European Datum.)

The new traffic separation scheme (TSS) off Cape La Nao will consist of:

- Two traffic lanes 2 miles wide;
- one intermediate traffic separation zone 1 mile wide; and
- one associated inshore zone.

The direction of navigation will be:

- TSS inner traffic lane: 212° (T) inbound course and 212° (T) outbound course towards Cape Palos;
- TSS outer traffic lane: 032° (T) inbound and outbound course.

Description of the new traffic separation scheme Off Cape La Nao:

- (a) Northbound traffic separation line bounded by a line connecting the following geographical positions:

- | | | |
|-----|-------------|--------------|
| (1) | 38°41'.40 N | 000°28'.80 E |
| (2) | 38°37'.70 N | 000°26'.00 E |

- (b) Intermediate traffic separation zone bounded by a line connecting the following geographical positions:

- | | | |
|-----|-------------|--------------|
| (3) | 38°37'.90 N | 000°23'.10 E |
| (4) | 38°42'.20 N | 000°26'.80 E |
| (5) | 38°43'.00 N | 000°25'.00 E |
| (6) | 38°37'.90 N | 000°20'.60 E |

- (c) Associated inshore navigation zone established between the coast and a line passing through the following geographical positions:

- | | | |
|-----|-------------|--------------|
| (7) | 38°37'.90 N | 000°13'.50 E |
| (8) | 38°41'.00 N | 000°20'.20 E |
| (9) | 38°44'.00 N | 000°22'.60 E |

and the connection of point No. 7 with the Ifach Headland
and the connection of point No. 9 with the Cape San Antonio Lighthouse.

- (d) A northbound traffic lane for north-eastbound shipping established between the separation zones described in (a) and (b). The main traffic direction is: 032° (T).
- (e) A southbound traffic lane for south-westbound shipping established between the traffic separation zone described in (b) and the associated inshore navigation zone described in (c). The main traffic direction is: 212° (T).

NEW TRAFFIC SEPARATION SCHEME OFF CAPE PALOS

(Reference chart: Spanish Hydrographic Institute 47, May 1995 2nd edition.

Note: This chart is based on European Datum.)

The new traffic separation scheme Off Cape Palos will consist of:

- Two traffic lanes 1.5 nautical miles wide;
- one traffic separation zone 1 nautical mile wide; and
- one inshore traffic zone.

The direction of navigation will be:

- Inner traffic lane with a course of entry of 212° (T) and a course of exit in the direction of Cape Gata of 232°(T);
- Outer traffic lane with a course of entry of 052° and a course of exit in the direction of Cape Palos of 032° (T);

Description of the new traffic separation scheme Off Cape Palos:

- a) A separation line for northbound traffic delimited by a line joining the following geographical positions:

(1)	37°34'.30 N	000°28'.70 W
(2)	37°32'.50 N	000°30'.00 W
(3)	37°31'.20 N	000°32'.30 W

- b) A separation zone delimited by a line joining the following geographical positions:

(4)	37°32'.00 N	000°33'.50 W
(5)	37°33'.50 N	000°31'.40 W
(6)	37°34'.85 N	000°30'.30 W
(7)	37°32'.80 N	000°34'.60 W
(8)	37°34'.40 N	000°32'.20 W
(9)	37°35'.20 N	000°31'.40 W

- c) An inshore traffic zone situated between the coast and a line which passes through the following geographical positions:

(10)	37°33'.75 N	000°35'.75 W
(11)	37°35'.00 N	000°33'.80 W
(12)	37°35'.70 N	000°33'.40 W

and a line which joins the geographical position (10) and Cape Agua
and a line which joins the geographical position (12) and Cape Roig.

- d) A northbound traffic lane leading north-east situated between the separation zones described in a) and b).

- e) A southbound traffic lane leading south-west situated between the separation zone described in b) and the inshore traffic zone described in c).

AMENDMENTS TO THE EXISTING TRAFFIC SEPARATION SCHEMES IN THE GULF OF FINLAND

Traffic separation scheme "Off Porkkala Lighthouse"

Reference chart: FIN 902, 2000 edition.
Geodetic datum: The national Finnish geodetic chart-coordinate system (KKJ)
WGS84 correction: latitude correction -0,01'
longitudinal correction is +0,19'.

Description of the amended traffic separation scheme

- a) A separation zone, one mile wide, is centred upon the following geographical positions:
- | | | |
|-----|-------------|--------------|
| (1) | 59°43'.70 N | 024°14'.00 E |
| (2) | 59°44'.90 N | 024°21'.40 E |
| (3) | 59°45'.90 N | 024°31'.00 E |
- b) A traffic lane, one and a half miles wide, is established on each side of the separation zone.
- c) A precautionary area is established upon the following geographical positions:
- | | | |
|-----|-------------|--------------|
| (1) | 59°43'.95 N | 024°31'.80 E |
| (2) | 59°46'.15 N | 024°53'.50 E |
| (3) | 59°50'.05 N | 024°51'.90 E |
| (4) | 59°47'.85 N | 024°30'.20 E |
- d) A separation zone, one mile wide, is centred upon the following geographical positions:
- | | | |
|-----|-------------|--------------|
| (1) | 59°48'.10 N | 024°52'.70 E |
| (2) | 59°48'.80 N | 025°00'.00 E |
- e) A traffic lane, one and a half miles wide, is established on each side of the separation zone.

Traffic separation scheme "Off Hankoniemi Peninsula"

Reference chart: FIN 912, 1999 edition.
Geodetic datum: The national Finnish geodetic chart-coordinate system (KKJ)
WGS84 correction: latitude correction -0,01'
longitudinal correction is +0,20'.

Description of the amended traffic separation scheme

- c) A separation zone, two miles wide, is centred upon the following geographical positions:

- | | | |
|-----|-------------|--------------|
| (1) | 59°24' 50 N | 022°25'.00 E |
| (2) | 59°28'.00 N | 022°34'.00 E |
| (3) | 59°30'.00 N | 022°45'.00 E |

- d) A traffic lane, four miles wide, is established on each side of the separation zone.

AMENDMENT TO THE TRAFFIC SEPARATION SCHEME IN THE BAY OF FUNDY AND APPROACHES

(Reference charts: Canadian Hydrographic Service L/C-4011, 2001 edition.

Note: This chart is based on North American 1983 Geodetic Datum.)

Description of the amended traffic separation scheme:

The amended traffic separation scheme “In the Bay of Fundy and Approaches” consists of two parts.

Part I

- (a) Three separation zones bounded by lines connecting the following geographical positions:

- | | | | | | | |
|-----------|------|--------------|--------------|------|--------------|---------------|
| (i) | (1) | 44°46'.40 N, | 066°14'.39 W | (4) | 44°11'.83 N, | 066°49'.55 W |
| | (2) | 44°31'.85 N, | 066°19'.60 W | (5) | 44°30'.70 N, | 066°17'.20 W |
| | (3) | 44°14'.95 N, | 066°52'.70 W | (6) | 44°45'.90 N, | 066°11'.68 W |
| (ii) | (7) | 44°48'.32 N, | 066°13'.65 W | (9) | 44°46'.88 N, | 066°11'.30 W |
| | (8) | 44°47'.33 N, | 066°14'.00 W | (10) | 44°47'.86 N, | 066°10'.95 W; |
| and (iii) | (11) | 45°02'.5 N, | 066°08'.25 W | (13) | 44°48'.80 N, | 066°10'.58 W |
| | (12) | 44°49'.3 N, | 066°13'.30 W | (14) | 45°02'.00 N, | 066°05'.55 W |

- (b) A traffic lane for north-eastbound traffic is established between the separation zones and a line connecting the following geographical positions:

- | | | | | | |
|------|--------------|--------------|------|--------------|--------------|
| (15) | 44°09'.50 N, | 066°47'.05 W | (17) | 45°01'.50 N, | 066°02'.80 W |
| (16) | 44°29'.60 N, | 066°14'.75 W | | | |

- (c) A traffic lane for south-westbound traffic is established between the separation zones and lines connecting the following geographical positions:

- | | | | | | | |
|----------|------|--------------|--------------|------|--------------|--------------|
| (i) | (18) | 45°03'.00 N, | 066°11'.00 W | (19) | 44°49'.80 N, | 066°15'.98 W |
| and (ii) | (20) | 44°46'.90 N, | 066°17'.00 W | (22) | 44°17'.35 N, | 066°55'.17 W |
| | (21) | 44°33'.00 N, | 066°22'.00 W | | | |

Part II

- (d) A separation zone bounded by a line connecting the following geographical positions:

- | | | | | | |
|------|--------------|--------------|------|--------------|--------------|
| (23) | 44°48'.60 N, | 066°20'.72 W | (25) | 44°48'.88 N, | 066°16'.35 W |
| (24) | 44°47'.90 N, | 066°16'.70 W | (26) | 44°49'.58 N, | 066°20'.40 W |

- (e) A traffic lane for north-westbound traffic is established between the separation zone and a line connecting the following geographical positions:

(27) 44°49'.80 N, 066°15'.98 W (28) 44°50'.58 N, 066°20'.05 W

- (f) A traffic lane for south-eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

(29) 44°47'.65 N, 066°21'.10 W (30) 44°46'.90 N, 066°17'.00 W

AMENDMENTS TO THE EXISTING TRAFFIC SEPARATION SCHEME IN THE STRAIT OF BAB EL MANDEB

(Reference charts: British Admiralty charts Nos: 452 and 453

Note: These charts are based on World Geodetic System 1984 Datum (WGS 84).)

The amended traffic separation scheme in the Strait of Bab el Mandeb will consist of:

Two traffic lanes and one traffic separation zone between them.

The direction of navigation will be:

- a southbound traffic lane, 155°(T) as far as the turning line off Mayyun Island, thence 120°(T) to the eastern limit of the existing scheme.
- a northbound traffic lane, 300°(T) as far as the turning line off Mayyun Island, thence 335°(T) to the northern limit of the scheme.

Description of the amended traffic separation scheme in the Strait of Bab el Mandeb:

- (a) A separation zone bounded by a line connecting the following geographical positions:

(1)	13° 13'.07 N	043° 02'.87 E
(2)	12° 36'.82 N	043° 20'.22 E
(3)	12° 32'.53 N	043° 27'.79 E
(4)	12° 33'.37 N	043° 28'.30 E
(5)	12° 37'.50 N	043° 21'.00 E
(6)	13° 13'.83 N	043° 03'.60 E

- (b) A traffic lane for southbound traffic between the separation zone and the following geographical positions:

(7)	13° 11'.94 N	043° 01'.72 E
(8)	12° 35'.78 N	043° 18'.98 E
(9)	12° 31'.25 N	043° 27'.04 E

(c) A traffic lane for northbound traffic between the separation zone and the following geographical positions:

(10)	13° 15'.00 N	043° 04'.70 E
(11)	12° 38'.50 N	043° 22'.21 E
(12)	12° 34'.69 N	043° 29'.03 E

ANNEX 3

ROUTEING MEASURES OTHER THAN TRAFFIC SEPARATION SCHEMES

RECOMMENDED ROUTES OFF THE MEDITERRANEAN COAST OF EGYPT

(Reference charts: Admiralty charts No 3400, 2681, 2573 and 2574

Note: These charts are based on World Geodetic System 1984 Datum (WGS 84))

Recommended Routes:

Recommended Route between SALLUM and MATROUH is defined by the following geographical positions:

- | | | |
|-----|---------------|----------------|
| (1) | 31° 40'. 60 N | 025° 19'. 50 E |
| (2) | 31° 51'. 40 N | 025° 54'. 00 E |
| (3) | 31° 32'. 50 N | 027° 21'. 10 E |

Recommended Route between MATROUH and EL-ISKINDARIA is defined by the following geographical positions:

- | | | |
|-----|---------------|----------------|
| (4) | 31° 32'. 50 N | 027° 21'. 10 E |
| (5) | 31° 16'. 30 N | 029° 35'. 20 E |

Recommended Route between EL-ISKINDARIA and EL-ARISH is defined by the following geographical positions:

- | | | |
|------|---------------|----------------|
| (6) | 31° 12'. 90 N | 029° 47'. 70 E |
| (7) | 31° 39'. 10 N | 030° 18'. 20 E |
| (8) | 31° 45'. 00 N | 031° 02'. 00 E |
| (9) | 31° 46'. 80 N | 032° 50'. 70 E |
| (10) | 31° 28'. 30 N | 033° 41'. 50 E |
| (11) | 31° 12'. 00 N | 033° 47'. 00 E |

NEW ROUTEING MEASURES FOR THE SOUTHERN RED SEA – RECOMMENDED TRACKS AND PRECAUTIONARY AREA

(Reference charts: British Admiralty charts Nos: 452 and 453

Note: These charts are based on World Geodetic System 1984 Datum (WGS 84)).

RECOMMENDED TRACKS BETWEEN JABAL ZUQAR AND THE PRECAUTIONARY AREA

The direction of navigation will be:

- a southbound traffic lane, 166°(T) from the southern limit of the traffic separation scheme east of Jabal Zuqar as far as the northern limit of the precautionary area lying north of the amended traffic scheme in the Strait of Bab el Mandeb.

- a northbound traffic lane, 346°(T) from the northern limit of the precautionary area lying north of the amended traffic scheme in the Strait of Bab el Mandeb to the southern limit of the traffic separation scheme east of Jabal Zuqar.

Description of the recommended tracks between the traffic separation schemes east of Jabal Zuqar and Bab el Mandeb:

- (a) Northern limit, consisting of a line connecting the following geographical positions:

(9) (East of Jabal Zuqar)	13° 57'.97 N	042° 49'.95 E
(12) (East of Jabal Zuqar)	13° 58'.94 N	042° 53'.83 E

- (b) Southern limit, consisting of a line connecting the following geographical positions:

(X) (precautionary area)	13° 19'.52 N	043° 03'.60 E
(Y) (precautionary area)	13° 18'.64 N	042° 59'.95 E

RECOMMENDED TRACKS BETWEEN HANISH AL KUBRA AND THE PRECAUTIONARY AREA

The direction of navigation will be:

- a southbound traffic lane, 123°(T) from the south eastern limit of the traffic separation scheme west and south of Hanish al Kubra as far as the north western limit of the precautionary area lying north of the amended traffic scheme through Bab el Mandeb.
- a northbound traffic lane, 309°(T) from the north western limit of the precautionary area lying north of the amended traffic scheme through Bab el Mandeb to the south eastern limit of the traffic separation scheme west and south of Hanish al Kubra.

Description of the recommended tracks between the traffic separation scheme west and south of Hanish al Kubra and the precautionary area:

- (a) North western limit, consisting of a line connecting the following geographical positions:

(9) (West and south of Hanish al Kubra)	13° 25'.22 N	042° 41'.05 E
(12) (West and south of Hanish al Kubra)	13° 30'.25 N	042° 45'.18 E

- (b) South eastern limit, consisting of a line connecting the following geographical positions:

(Y) (precautionary area)	13° 18'.64 N	042° 59'.95 E
(Z) (precautionary area)	13° 15'.00 N	042° 56'.96 E

**PRECAUTIONARY AREA NORTH OF THE AMENDED TRAFFIC SEPARATION
SCHEME IN THE STRAIT OF BAB EL MANDEB**

A precautionary area is established by a line connecting the following geographical positions:

(10) (North west of Bab el Mandeb)	13° 15'.00 N	043° 04'.70 E
(X)	13° 19'.52 N	043° 03'.60 E
(Y)	13° 18'.64 N	042° 59'.95 E
(Z)	13° 15'.00 N	042° 56'.96 E
(7) (North west of Bab el Mandeb)	13° 11'.94 N	043° 01'.72 E

ANNEX 4**DRAFT RESOLUTION MSC...(76)
(adopted on [.. December 2002])****MANDATORY SHIP REPORTING SYSTEM**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO regulation V/11 of the International Convention for the Safety of Life at Sea (SOLAS), 1974 concerning the adoption by the Organization of ship reporting systems,

RECALLING FURTHER resolution A.858(20) which authorizes the Committee to perform the function of adopting ship reporting systems on behalf of the Organization,

TAKING INTO ACCOUNT of the amendments to the existing Guidelines and criteria for ship reporting systems adopted by resolution MSC.43(64), as amended by resolution MSC.111(73),

HAVING CONSIDERED the recommendations of the Sub-Committee on Safety of Navigation at its forty-eighth session,

1. ADOPTS, in accordance with SOLAS regulation V/11, the mandatory ship reporting system in the Gulf of Finland, as described in the Annex to the present resolution;
2. DECIDES that the said mandatory ship reporting system will enter into force at 0000 hours UTC on [1 July 2004];
3. REQUESTS the Secretary-General to bring this resolution and its Annex to the attention of Member Governments and Contracting Governments to the SOLAS Convention.

ANNEX

DESCRIPTION OF THE MANDATORY SHIP REPORTING SYSTEM IN THE GULF OF FINLAND TRAFFIC AREA

A ship reporting system is established in the Gulf of Finland on international waters.

1 CATEGORIES OF SHIPS REQUIRED TO PARTICIPATE IN THE SYSTEM

- 1.1 Ships required to participate in the mandatory ship reporting system:
- 1.2 Ships of 300 gross tonnage and upwards proceeding to or from ports or passing through the reporting area between ports in the Gulf of Finland, or ships visiting the area.

2 GEOGRAPHICAL COVERAGE OF THE SYSTEM AND THE NUMBER AND EDITION OF THE REFERENCE CHART USED FOR THE DELINEATION OF THE SYSTEM

- 2.1 The system covers the international waters in the Gulf of Finland between a line drawn from Bengtskär Lighthouse to 59°33.30'N 022°30'E to 59°10'N 021°30'E to Kõpu Peninsula and longitude 026°30'E.
- 2.2 The reference charts are:
 - .1 Finnish Maritime Administration charts 901 (edition 2000, scale 1:200 000), 902 (edition 2000, scale 1:200 000) and 912 (edition 1999, scale 1:200 000). Geodetic datum is the national geodetic chart-coordinate system (KKJ). WGS84 latitude correction is -0,01' and the longitude correction is +0,19'.
 - .2 Russian charts 22060-INT1213 (edition 2000, scale 1:250000). Geodetic datum of the year 1942 (Pulkovo). For obtaining position in WGS datum such position should be moved 0,12' westward. 22061-INT1214 (edition 1997, scale 1:250000). Geodetic datum of the year 1942 (Pulkovo). For obtaining position in WGS datum such position should be moved 0,13' westward.
 - .3 Estonian charts 502 (edition 2001, scale 1:100 000), 504 (edition 2001, scale 1:100 000), 507 (edition 2001, scale 1:100 000), 509 (edition 2001, scale 1:100 000), 511 (edition 2001, scale 1:100 000). Geodetic datum is WGS84.

The area of the reporting system is covered by hydrographic surveys.

Border line point by point of the Gulf of Finland ship reporting area

Finland
EUREF89

1	59°36'.477 N	22°38'.074 E
2	59°38'.137 N	22°51'.446 E
3	59°39'.413 N	23°21'.123 E
4	59°47'.022 N	24°12'.365 E

5	59°47'.809 N	24°19'.928 E
6	59°49'.024 N	24°29'.299 E
7	59°53'.524 N	24°47'.122 E
8	59°55'.281 N	24°55'.799 E
9	59°56'.606 N	25°10'.161 E
10	59°55'.879 N	25°28'.276 E
11	59°55'.692 N	25°34'.962 E
12	59°55'.920 N	25°37'.219 E
13	59°58'.608 N	26°01'.039 E
14	60°00'.844 N	26°04'.505 E
15	60°02'.293 N	26°11'.314 E
16	60°02'.791 N	26°17'.683 E
17	60°05'.000 N	26°30'.000 E

Russian Federation

1	60°05'.000 N	26°30'.000 E
2	59°57'.000 N	26°30'.000 E

Estonia

1	59°56'.273 N	26°26'.110 E
2	59°53'.994 N	26°09'.069 E
3	59°48'.894 N	26°01'.170 E
4	59°49'.593 N	25°34'.569 E
5	59°42'.193 N	24°28'.769 E
6	59°34'.592 N	23°57'.069 E
7	59°28'.892 N	23°31'.169 E
8	59°28'.991 N	23°11'.369 E
9	59°28'.191 N	23°08'.469 E
10	59°27'.391 N	23°06'.369 E
11	59°17'.491 N	22°43'.870 E
12	59°17'.691 N	22°36'.070 E
13	59°16'.190 N	22°23'.770 E
14	59°14'.690 N	22°18'.370 E
15	59°03'.390 N	21°50'.870 E
16	59°02'.100 N	21°49'.000 E
17	59°10'.000 N	21°30'.000 E

Finland

1	59°36'.477 N	22°38'.074 E
---	--------------	--------------

3 FORMAT, CONTENT OF REPORTS, TIMES AND GEOGRAPHICAL POSITIONS FOR SUBMITTING REPORTS, AUTHORITY TO WHOM REPORTS SHOULD BE SENT AND AVAILABLE SERVICES

Reports should be made using VHF voice transmissions. However, ships equipped with AIS (automatic identification system) can fulfill the reporting requirements of the system through the use of universal AIS approved by the Organization.

A ship must give a short position report by voice or by AIS when entering the mandatory ship reporting area. The full report may be given by voice or by non-verbal means. A ship may elect, for reasons of commercial confidentiality, to communicate that section of the report which provides information on cargo by non-verbal means prior to entering the ship reporting area. When leaving port, the ship can give the full report to the ship reporting system by voice or by non-verbal means.

3.1 Format

3.1.1 The information given below is derived from the format-type given in paragraph 2 of the appendix to resolution A.851(20).

3.2 Content

3.2.1 A short report by voice or by AIS from a ship to the shore-based authorities should contain the following information:

- | | |
|---------|---|
| A | Name of the ship, call sign or IMO identification number (or MMSI for transponder reports). |
| B | Date and Time (UTC) |
| C or D | Position (expressed in latitude and longitude <i>or</i> bearing to and distance from a landmark). |
| E and F | Course and speed of the ship. |

3.2.2 A full report from a ship to the shore-based authorities by voice or by non-verbal means should contain the following information:

- | | |
|--------|---|
| I | Destination and ETA |
| L | Route information. |
| O | Vessel's draught. |
| P | Hazardous cargo, class and quantity, if applicable. |
| Q or R | Breakdown, damage and/or deficiencies affecting the structure, cargo or equipment of the ship or any other circumstances affecting normal navigation in accordance with the provisions of the SOLAS and MARPOL Conventions. |
| T | Contact information of ship's agent or owner |
| U | Ship's deadweight tonnage |
| W | Total number of persons on board |
| X | Miscellaneous remarks, e.g. iceclass, amount and nature of bunkers if over 5000 tons, navigational status |

Note:

On receipt of a position message, the system operators will establish the relationship between the ship's position and the information supplied by the position-fixing equipment available to them. Information on course and speed will help operators to identify one ship among a group of ships. This will be achieved automatically if AIS transponder is used.

All VHF-, telephone-, radar-, AIS- and other relevant information will be recorded and the records are stored for 30 days.

3.3 Geographical position for submitting reports

- 3.3.1 Eastbound traffic should make a report to TALLINN TRAFFIC when crossing the line drawn from Bengtskär Lighthouse to 59°33.30'N 022°30'E to 59°10'N 021°30'E to Kõpu Peninsula or when entering the ship reporting area from south.
- 3.3.2 Westbound traffic should make a short report to HELSINKI TRAFFIC when crossing longitude 026°30'E or when entering the ship reporting area from north.
- 3.3.3 A full report to the nearest shore station should be made on departure from port.
- 3.3.4 Further reports should be made to the relevant shore station whenever there is a change of navigational status or circumstance, particularly in relation to items Q and R of the reporting format.

3.4 Crossing traffic

- 3.4.1 Reports to the nearest shore station should be made on departure from a port within the coverage area. Recognizing that ferries crossing between Helsinki and Tallinn generally operate according to published schedules, special reporting arrangements can be made on a ship-by-ship basis, subject to the approval of **both** HELSINKI TRAFFIC and TALLINN TRAFFIC.
- 3.4.2 Further reports should be made to the relevant shore station whenever there is a change of navigational status or circumstance, particularly in relation to items Q and R of the reporting format.
- 3.4.3 On the area between Helsinki and Tallinn Lighthouses there is a heavy crossing traffic in summer consisting mostly of high speed craft and recreational craft. In the area between Porkkala Lighthouse and Naissaar there are recreational sailing activities in summer.

3.5 Authority

- 3.5.1 The shore-based Authorities are:

Estonia:	Estonian Maritime Administration
Finland:	Finnish Maritime Administration
Russian Federation:	Russian Maritime Administration

- 3.5.2 The Estonian, Finnish and Russian Authorities monitor shipping within the mandatory ship reporting area of the Gulf of Finland by radar. This does not relieve ship masters of their responsibility for the navigation of their ship.

4 INFORMATION TO BE PROVIDED TO PARTICIPATING SHIPS AND PROCEDURES TO BE FOLLOWED

4.1 Information provided

- 4.1.1 Each Authority provides information to shipping about specific and urgent situations which could cause conflicting traffic movements and other information concerning safety of navigation, for instance information about weather, ice, water level, navigational problems or other hazards. Information is broadcast on the following frequencies when necessary or on request.

Station	Frequency	Times	Additional broadcasts in wintertimes
Tallinn	VHF channel XX working channel 81	on request or when needed	on request or when needed
Helsinki	VHF channel XX working channel 80	on request or when needed	on request or when needed
St. Petersburg	VHF channel XX working channel SS	on request or when needed	on request or when needed

- 4.1.2 Information broadcasts will be preceded by an announcement on VHF channel 16 on which channel it will be made. All ships navigating in the area should listen to the announced broadcast.
- 4.1.3 If necessary, individual information can be provided to a ship, particularly in relation to positioning and navigational assistance or local conditions. If a ship needs to anchor due to breakdown or emergency the operator can recommend suitable anchorage in the area.

4.2 Ice routing in winter

- 4.2.1 During severe ice conditions the traffic separation schemes may be declared not valid. Such a decision is agreed jointly by the National Icebreaking Authorities and communicated to shipping with the daily ice reports. The decision may include all or a named traffic separation scheme.
- 4.2.2 During the period when the Gulf of Finland is covered by ice, ships reporting to the centre, will receive information on the recommended route through the ice and/or are requested to contact the national co-ordinating icebreaker for further instructions. The icebreaker gives the route according to the ice situation to the ships which fulfill the national ice class regulations and which are fit for winter navigation.

4.3 Deviations

- 4.3.1 If a ship participating in the mandatory ship reporting system fails to appear on the radar screen or fails to communicate with the Authority or an emergency is reported, MRCCs or MRSCs in the area are responsible for initiating a search for the ship in accordance

with the rules laid down for the search and rescue service, including the involvement of other participating ships known to be in that particular area.

5 COMMUNICATION REQUIRED FOR THE SYSTEM, FREQUENCIES ON WHICH REPORTS SHOULD BE TRANSMITTED AND INFORMATION TO BE REPORTED

5.1 The radio communications equipment required for the system is that defined in the GMDSS for sea area A1.

5.2 Ships are required to maintain a continuous listening watch in the area and to report and take any action required by the maritime Authorities to reduce risks:

5.3 Common call and information channels:

on channel XX	call and short report information.
on channel 16	call and distress

5.4 The full report can be made by voice on VHF radio using the following channels:

	main	reserve
HELSINKI TRAFFIC	80	60
TALLINN TRAFFIC	81	61
ST. PETERSBURG TRAFFIC	SS	YY

5.5 Ship reports can, alternatively, be made by A15, provided that the report can be transmitted fully.

5.6 Confidential information may be transmitted by other means.

5.7 The language used for communication shall be English, using the IMO Standard Marine Communication Phrases, where necessary.

6 Relevant rules and regulations in force in the area of the system

6.1 Regulations for Preventing Collisions at Sea

The International Regulations for Preventing Collisions at Sea are applicable throughout the reporting area.

6.2 Traffic Separation Schemes

The Traffic Separation Schemes in the Gulf of Finland have been adopted by IMO and rule 10 of the International Regulations for Preventing Collisions at Sea applies.

6.3 Pilotage

Pilotage is mandatory in national waters under national laws.

6.4 Dangerous and hazardous cargoes

- 6.4.1 Ships carrying dangerous or hazardous cargoes and bound to or from any port within the ship reporting area must comply with the international and national regulations. The ship reporting system does not relieve ships masters of their responsibility to give the nationally required reports and information to customs authorities.
- 6.4.2 Discharges of oil and ship-generated waste is monitored by the joint Estonian, Finnish and Russian Authorities. Ships causing pollution within the area can be prosecuted and fined.

7 SHORE-BASED FACILITIES TO SUPPORT OPERATION OF THE SYSTEM

The joint Estonian, Finnish and Russian Authorities have radar, information processing and retrieval system, radio VHF and Automatic Identification System (AIS) facilities. The frequencies used in AIS–NET are AIS1 and AIS2.

7.1 HELSINKI TRAFFIC

7.1.1 System capability

- 7.1.1.1 The control centre is situated at the Helsinki VTS in Helsinki. The operator can control, monitor and display the status of all the VTS sensors from the consoles. The VTS centre will at all times be manned by two operators.
- 7.1.1.2 HELSINKI TRAFFIC maintains a continuous watch on traffic in the Gulf of Finland on channels [XX] and 16. Operators add reported vessel information to the associated database and can display supporting information on the screen. The system is capable of providing an automatic alarm to identify any track which strays into an unauthorised area. Recording equipment automatically stores information from all tracks, which can either be replayed in the system or from the recorded resource. Records are made by an authorized method that can be used as an evidence. Operators have access to different ship registers and hazardous cargo data.

7.1.2 Radar facilities

- 7.1.2.1 The surveillance sensors can observe targets of at least 300 gross tons and a minimum height of 10 metres in the given traffic area.

7.1.3 Radio communication facilities

- 7.1.3.1 Radiocommunication terminals are sited in the consoles of HELSINKI TRAFFIC operation room. VHF radio transceivers are located at Hanko, Porkkala, Harmaja, Emäsalo and Orrengrund.

The VHF channels used are:

- Channel XX common channel
- Channel 80 working channel
- Channel 60 reserve channel

7.1.4 AIS facilities

7.1.4.1 HELSINKI TRAFFIC can continually receive the messages broadcasted by ships fitted with transponders to gain information on their identity and position. This information is displayed as an icon on an electronic chart covering the Gulf of Finland mandatory ship reporting area.

7.1.5 Personnel qualifications and training

7.1.5.1 HELSINKI TRAFFIC is staffed with personnel trained according to national and international recommendations.

7.1.5.2 The training of the personnel comprises an overall study of the navigation safety measures, the relevant international (IMO) and national provisions with respect to safety of navigation. The training also includes thorough real-time simulations in different ship bridge simulators. The trainees are trained as well in navigating ships through the VTS area as servicing shipping from the VTS Centre.

7.2 TALLINN TRAFFIC

7.2.1 System capability

7.2.1.1 The VTS system will be located in the office of the Maritime Administration at Hundipea port, Tallinn. From the consoles the operator can control, monitor and display the status of all VTS sensors. The VTS centre will at all times be manned with two operators.

7.2.1.2 TALLINN TRAFFIC maintains a continuous watch over traffic on the Gulf of Finland on channels [XX] and 16. Operators add the reported vessel information to the associated database and can display supporting information on screen. The system is capable of providing an automatic alarm to identify any track that strays into the unauthorized area. Recording equipment automatically stores information from all tracks, which can either be replayed on the system or from the recorded resource. Records are made according to an authorized method that can be used as evidence.

7.2.2 Radar facilities

7.2.2.1 The surveillance sensors can observe targets of at least 300 gross tons and a minimum height of 10 metres in the given traffic area.

7.2.3 Radio communication facilities

7.2.3.1 VHF radio transceivers are located at TALLINN TRAFFIC operation room.

The VHF channels used are:

- Channel XX common channel
- Channel 81 working channel
- Channel 61 reserve channel

7.2.3.2 TALLINN TRAFFIC monitors shipping in the Gulf of Finland by radar, VHF and RDF equipment and with AIS shipborne transponders. All the traffic and messages will be stored to the database and displayed on the electronic chart. The messages from AIS transponders, not in accordance with IEC 61993-2 will be filtered out. System uses standard AIS channels and in base stations transponders of MDS origin.

7.2.4 **Personnel qualifications and training**

7.2.4.1 TALLINN TRAFFIC is staffed with personnel trained according to national and international recommendations.

7.3 **ST. PETERSBURG TRAFFIC**

7.3.1 **System capability**

7.3.1.1 The Centre is situated at VTMISS Centre located in Petrodvorets. The Centre is linked with shore-based VHF station located at island Gogland. VHF range covers the waters close to the border.

7.3.1.2 ST. PETERSBURG TRAFFIC maintains a continuous watch on traffic on the Gulf of Finland on channels [XX] and 16. Operators add reported vessel information to the associated database and can display supporting information on screen. The system is capable of providing an automatic alarm to identify any track, which strays into an unauthorized area. Recording equipment automatically stores information from all tracks, which can either be replayed on the system or from the recorded resource.

7.3.2 **Radar facilities**

7.3.2.1 The nearest radar sensor to ship reporting system is placed on island Gogland with antenna height 80 metres above sea level can observe targets at least 300 gross tons at the distances up to 026⁰30'E.

7.3.3 **Radio communication facilities**

7.3.3.1 Radio communication terminals are sited in consoles of ST. PETERSBURG TRAFFIC operation rooms. VHF radio transceivers are located at Gogland.

The VHF channels used are:

- Channel XX common channel
- Channel SS working channel
- Channel YY reserve channel

7.3.4 **AIS facilities St. Petersburg**

7.3.4.1 The ST. PETERSBURG TRAFFIC can monitor ships sailing in the eastern part of the Gulf of Finland to the east of 026⁰30'E and equipped with universal AIS shipborne stations.

7.3.5 Personnel qualifications and training

7.3.5.1 The ST. PETERSBURG TRAFFIC is staffed with personnel trained according to national and international recommendations.

7.3.5.2 The training of the personnel comprises an overall study of the navigation safety measures, the relevant international (IMO) and national provisions with respect to safety of navigation. The training also includes thorough real-time simulations.

8 INFORMATION CONCERNING THE APPLICABLE PROCEDURES IF THE COMMUNICATION FACILITIES OF THE SHORE-BASED AUTHORITY FAIL

8.1 The system is designed with sufficient system redundancy to cope with normal equipment failure.

9 MEASURES TO BE TAKEN IF A SHIP FAILS TO COMPLY WITH THE REQUIREMENTS OF THE SYSTEM

9.1 The primary objective of the system is to facilitate the exchange of information between the ship station and the shore station and to support safe navigation and the protection of the marine environment. All means will be used to encourage and promote the full participation of ships required to submit reports under SOLAS regulation V/11. If reports are not submitted and the offending ship can be positively identified, then information will be passed to the relevant Flag State Authorities for investigation and possible prosecution in accordance with national legislation.

SUMMARY OF SHIP REPORTING SYSTEM IN THE GULF OF FINLAND

1 Ships required to participate:

Ships of 300 gross tonnage and over are required to participate in the system.

2 Position for submitting reports:

The ship reporting area covers the international water area in the Gulf of Finland between a line drawn from Bengtskär Lighthouse to 59°33.30'N 022°30'E to 59°10'N 021°30'E to Kõpu Peninsula and longitude 026°30'E.

Reports are to be submitted:

When entering the ship reporting area in the Gulf of Finland.

Eastbound traffic to TALLINN TRAFFIC.
Westbound traffic to HELSINKI TRAFFIC

The report to the nearest of the shore stations on departure from a port within the area limits.

3 Communication:

By voice on VHF radio, call on given channel.

Call and information		TRAFFIC CHANNEL	XX	
			main	reserve
Working channels:	HELSINKI TRAFFIC	80	60	
	TALLINN TRAFFIC	81	61	
	ST. PETERSBURG TRAFFIC	SS	YY	

Alternatively by AIS.

Confidential information may be transmitted by non-verbal means.

4 Reporting format:

Short position report:

- | | |
|---------|---|
| A | Name of the ship, call sign or IMO identification number (or MMSI for transponder reports). |
| B | Date and time (UTC) |
| C or D | Position (expressed in latitude and longitude or bearing to and distance from a landmark). |
| E and F | Course and speed of the ship. |

Full report:

I	Destination and ETA
L	Route information.
O	Vessel's draught.
P	Hazardous cargo, class and quantity, if applicable.
Q or R	Breakdown, damage and/or deficiencies affecting the structure, cargo or equipment of the ship or any other circumstances affecting normal navigation in accordance with the provisions of the SOLAS and MARPOL Conventions.
U	Ship's deadweight tonnage.
W	Total number of persons on board.
X	Miscellaneous remarks, e.g. ice class, bunkers over 5000 tons, navigational status.

5 Authority receiving the report:

Estonia:	Estonian Maritime Administration
Finland:	Finnish Maritime Administration
Russia:	Russian Maritime Administration

6 Winter season:

During severe ice conditions the traffic separation schemes may be declared not valid. Such a decision is agreed jointly by the Estonian, Finnish and Russian Authorities and is communicated to shipping in connection with the daily ice reports.

When a ship reports to the Traffic Centre, it will receive the preliminary waypoints and the national co-ordinating icebreaker's name and working channel from the operator.

The vessel shall contact the national co-ordinating icebreaker for further instructions.

APPENDIX 1

Radio reports to the Gulf of Finland mandatory ship reporting system

Designator	Function	Information required
Short position report:		
A	Ship	Name and call sign or IMO identification
B	Time	Date and time (UTC)
C	Position	Geographical position by two 4 -digit groups; or
D	Position	Name of reporting point
E	Course	East- or west- or north- or south-bound
F	Speed	In knots (2-digit group)
Full report:		
I	Destination and ETA	Destination and estimated time of arrival
L	Route information	Where the ship is en route
O	Draught	Vessel's maximum draught
P	Cargo	Hazardous cargo, class and quantity
Q	Deficiencies	Brief details of defects or restrictions of manoeuvrability
R	Pollution	Description of pollution or dangerous goods lost overboard
T	Owner or agent	Contact information of the ship's owner or agent
U	Tonnage (DWT)	Ship's deadweight tonnage
W	Persons	Total number of persons on board
X	Miscellaneous	Miscellaneous remarks, e.g. ice class, bunkers navigational status etc.

ANNEX 5**DRAFT RESOLUTION MSC...(76)
(adopted on [.. December 2002])****MANDATORY SHIP REPORTING SYSTEM**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO regulation V/11 of the International Convention for the Safety of Life at Sea (SOLAS), 1974 concerning the adoption by the Organization of ship reporting systems,

RECALLING FURTHER resolution A.858(20) which authorizes the Committee to perform the function of adopting ship reporting systems on behalf of the Organization,

TAKING INTO ACCOUNT of the amendments to the existing Guidelines and criteria for ship reporting systems adopted by resolution MSC.43(64), as amended by resolution MSC.111(73),

HAVING CONSIDERED the recommendations of the Sub-Committee on Safety of Navigation at its forty-eighth session,

1. ADOPTS, in accordance with SOLAS regulation V/11, the mandatory ship reporting system in the Adriatic Sea, as described in the Annex to the present resolution;
2. DECIDES that the said mandatory ship reporting system will enter into force at 0000 hours UTC on [1 July 2003];
3. REQUESTS the Secretary-General to bring this resolution and its Annex to the attention of Member Governments and Contracting Governments to the SOLAS Convention.

ANNEX

DESCRIPTION OF THE MANDATORY SHIP REPORTING SYSTEM IN THE ADRIATIC SEA

1 CATEGORIES OF SHIPS REQUIRED TO PARTICIPATE IN THE SYSTEM

1.1 Ships of the following categories are required to participate in the system:

- all oil tanker ships of 150 gross tonnage and above;
- all ships of 300 gross tonnage and above, carrying on board, as cargo, dangerous or polluting goods, in bulk or in packages.

1.2 For the purpose of this system:

- “dangerous goods” means goods classified in the IMDG Code, in Chapter 17 of the IBC Code and in Chapter 19 of the IGC Code;
- “polluting goods” means oils as defined in MARPOL Annex I, noxious liquid substances as defined in MARPOL Annex II, harmful substances as defined in MARPOL Annex III.

2 GEOGRAPHICAL COVERAGE OF THE SYSTEM AND THE NUMBER AND EDITION OF THE REFERENCE CHART USED FOR THE DELINEATION OF THE SYSTEM

2.1 The operational area of the mandatory ship reporting system covers the whole Adriatic Sea, north from the latitude 40° 25'.00 N as shown in the attached chartlet as annex 1: the area is divided into 5 (five) sectors, each of them assigned to a competent authority, operating on a VHF channel as shown in the attached table as annex 2.

2.2 The reference charts including the operational area of the ADRIATIC TRAFFIC system are the Italian Chart No.435 INT 306 of the Italian Navy Hydrographic Institute (Edition 1993, Datum ED-50) and the Croatian Chart No. 101 of the Hydrographic Institute of the Republic of Croatia (Ed. 1998, Datum Besselov Elipsoid).

3 FORMAT AND CONTENTS OF THE REPORT, TIMES AND GEOGRAPHICAL POSITIONS FOR SUBMITTING REPORTS, AUTHORITIES TO WHOM REPORTS SHALL BE SENT, AVAILABLE SERVICES

The formats for reporting derive from the one attached as appendix to resolution A.851(20).

3.1 First report

3.1.1 The first report of ADRIREP (FR) shall be sent by radio to the competent authorities in accordance with the format shown in annex 3.

3.1.2 The first report shall contain the following information, in order to meet the objectives of the ADRIATIC TRAFFIC:

- ship's name, call sign, IMO identification number and flag;
- date and time of the report;
- present position;
- course;
- speed;
- port of departure;
- destination and estimated time of arrival;
- estimated time of arrival at the next check point;
- ship's draught
- the general category of hazardous cargo as defined by the IMDG, IBC, IGC Codes and MARPOL Annex I;
- ship's representative and/or owner available on 24-hour basis;
- ship's type, deadweight, gross tonnage and length overall;
- total number of persons on board; and
- any other relevant information.

3.1.3 In the last section of the first report, in accordance with provisions of SOLAS and MARPOL Conventions, ships shall also report information on any defect, damage, deficiency or limitations as well as, if necessary, information related to pollution incident or loss of cargo. The possession of this information will enable the operators of the shore-based competent authority to broadcast safety messages to other ships and to ensure more effective tracking of the trajectories of ships concerned.

3.2 **Position report**

3.2.1 The position report of ADRIREP (PR) shall be sent by radio to the competent authorities in accordance with the format shown in annex 4.

3.2.2 The position report shall contain the following information, in order to meet the objectives of the ADRIATIC TRAFFIC:

- ship's name, call sign, IMO identification number and flag;
- date and time of the report;
- present position;
- course;
- speed;
- port of departure;
- destination and estimated time of arrival;
- estimated time of arrival at the next check point;
- any other relevant information.

3.2.3 The present format shall be supplemented by any other information which differs from the one provided by the previous report.

3.3 Times and geographical positions for submitting reports

3.3.1 Sailing the Adriatic Sea northwards

- .1 The ship shall transmit the first report to the competent shore-based authority of the interested sector when:
 - entering the Adriatic Sea by crossing northwards the parallel 40° 25'.00 N;
 - entering the Adriatic Sea by leaving a port inside the area covered by the system.
- .2 The ship shall transmit the position report to the competent shore-based authorities when:
 - entering a new sector by crossing northwards its southern borderline, as per annex 2;
 - entering the port of destination in the area covered by the system.

3.3.2 Sailing the Adriatic Sea southwards

- .1 The ship shall transmit the first report to the competent shore-based authority of the interested sector when leaving a port inside the area covered by the system.
- .2 The shore-based authority to whom the first report shall be transmitted is that of the Country of the port the ship is leaving.
- .3 The recipient of the report will inform the maritime authority of the ship's destination (if in the area covered by the system), Brindisi Coast Guard and the other shore-based authorities in between, if any.
- .4 The ship shall transmit the position reports to the competent shore-based authorities when:
 - entering a new sector by crossing southwards its northern borderline, as per annex 2;
 - entering the port of destination in the area covered by the system.

3.3.3 Crossing the Adriatic Sea

- 3.3.3.1 The ship shall send the position report to the closest shore based authority of the country the ship is leaving, which shall inform the maritime authority of the port of destination.

3.3.4 Special cases

- .1 The ship which, sailing northwards or southwards, enters Sector 5 shall transmit the report to, alternatively, one of the competent authorities as per annex 2, according to where the ship is going to or coming from.
- .2 The ship crossing southwards the latitude 40° 25'.00 N and going out either of Sector 1 or of the area covered by the system shall transmit an additional final position report to Brindisi Coast Guard.

3.4 Authorities to whom the reports should be sent

- 3.4.1 The ships participating in the system shall transmit by radio the report to the “shore-based authorities” as in annex 2.

4 INFORMATION TO BE PROVIDED TO SHIP AND PROCEDURES TO BE FOLLOWED

- 4.1 The shore-based authority which receives the first report (01/FR) shall inform the maritime authority of the ship’s destination (if in the area covered by the system) and the other shore-based authorities in between, if any.
- 4.2 The competent shore-based authority of Sector 5 (as per paragraph 3.3.4) which receives the position report from the ship entering the sector will also inform the other two shore-based authorities about the entrance of the above mentioned ship.
- 4.3 Once received a report, the ADRIATIC TRAFFIC competent authority will provide the ship with:
- information on navigational conditions (status of aids to navigation, presence of other ships and, if necessary, their position, etc.);
 - information on weather conditions; and
 - any other relevant information.

5 RADIOCOMMUNICATION REQUIRED FOR THE SYSTEM, FREQUENCIES ON WHICH REPORTS SHOULD BE TRANSMITTED AND INFORMATION TO BE REPORTED

- 5.1 ADRIATIC TRAFFIC will be based on VHF voice radiocommunications.
- 5.2 The call to the appropriate shore-based authority shall be made on the VHF channel assigned to the sector in which the ship is located, as per annex 2.
- 5.3 However, ship which cannot use the frequencies listed in the annex 2 in order to transmit the reports, should use, via coast station, any other available communication equipment (e.g. MF, HF or INMARSAT) on which communication might be established.
- 5.4 The language used for communication shall be English, using the IMO Standard Marine Communications Phrases, where necessary.

6 RULES AND REGULATIONS IN FORCE IN THE AREA OF THE SYSTEM

- 6.1 The International Regulations for Preventing Collisions at Sea (COLREGs) are applicable through the whole area covered by the system.

7 SHORE-BASED FACILITIES TO SUPPORT OPERATION OF THE SYSTEM

- .1 Brindisi Coast Guard (Italy)
- telephone and telefax communication facilities;
 - VHF communication equipment.

- .2 MRCC Bar (Yugoslavia)
 - telephone and telefax communication facilities;
 - VHF, MF and HF communication equipment.
- .3 MRCC Rijeka (Croatia)
 - telephone and telefax communication facilities;
 - VHF, MF, HF and INMARSAT-C communication equipment.
- .4 MRSC Ancona (Italy)
 - telephone and telefax communication facilities;
 - VHF, MF and HF communication equipment.
- .5 MRSC Venezia (Italy)
 - telephone and telefax communication facilities;
 - VHF, MF and HF communication equipment.
- .6 MRSC Trieste (Italy)
 - telephone and telefax communication facilities;
 - VHF, MF and HF communication equipment.
- .7 MRCC Koper (Slovenia)
 - telephone and telefax communication facilities;
 - VHF communication equipment.

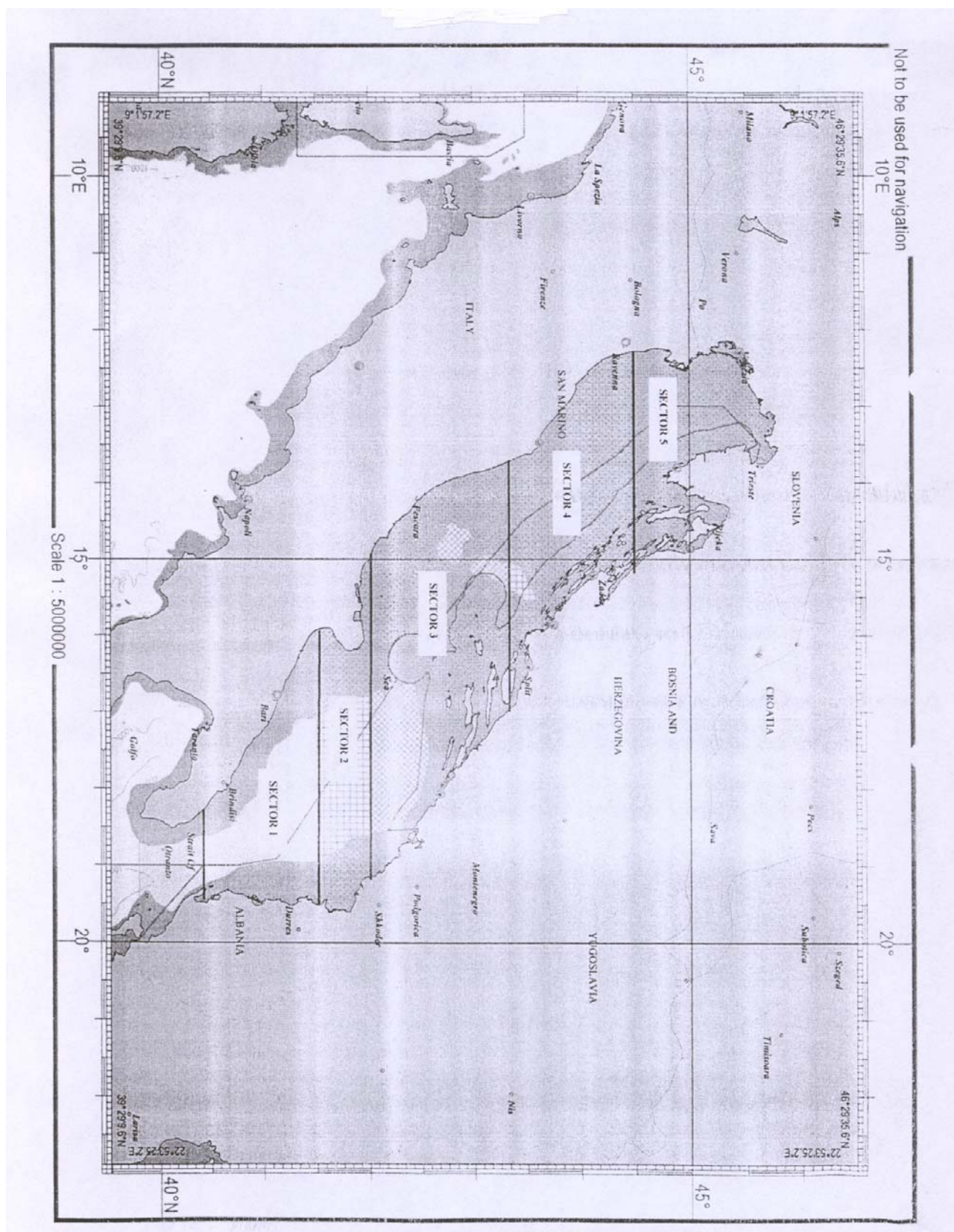
8 ALTERNATIVE COMMUNICATION IF THE SHORE BASED FACILITIES FAIL

- 8.1 ADRIATIC TRAFFIC is planned with a sufficient system redundancy to cope with normal equipment failure. Since that the system is based on the VHF voice communication, each shore based facility has got at least two VHF transmitters/receivers; in addition to that, in case of failing contacts by VHF, the shore based authorities can operate and be contacted through phone, fax, INMARSAT-C and MF/HF facilities. In order to ensure the continuous 24-hour activity, the shore based facilities have been located and manned with properly trained and dedicated personnel in the respective national MRCCs/MRSCs. Should a shore based authority suffer an irretrievable breakdown and call off itself from the system until the failure is repaired, it could be relieved by one of the adjacent shore based authorities.

9 Measures to be taken if a ship fails to comply with the system

- 9.1 The primary objective of the system is to support the safe navigation and the protection of the marine environment through the exchange of information between the ship and the shore. If a ship does not submit reports and can be positively identified, then information will be passed to the competent Flag State authorities for investigation and possible prosecution in accordance with national legislation. Information will be passed also to PSC inspectors.

ANNEX 1



ANNEX 2

SECTOR	SOUTHERN BORDERLINE	NORTHERN BORDERLINE	COMPETENT AUTHORITY	VHF FREQUENCIES
1	Latitude 40° 25'.00 N	Latitude 41° 30'.00 N	Brindisi Coast Guard (Italy)	Channel 10
2	Latitude 41° 30'.00 N	Latitude 42° 00'.00 N	Bar MRCC (Yugoslavia)	Channel 12
3	Latitude 42° 00'.00 N	Latitude 43° 20'.00 N	Rijeka MRCC (Croatia)	Channel 10
4	Latitude 43° 20'.00 N	Latitude 44° 30'.00 N	Ancona MRSC (Italy)	Channel 10
5	Latitude 44° 30'.00 N	Coastline	Venezia MRSC (Italy)	Channel 10
5	Latitude 44° 30'.00 N	Coastline	Trieste MRSC (Italy)	Channel 10
5	Latitude 44° 30'.00 N	Coastline	Koper MRCC (Slovenia)	Channel 12

ANNEX 3

FORMAT OF “ADRIATIC TRAFFIC” SHIP REPORTING SYSTEM FIRST REPORT

	Message identifier:	- ADRIREP
	Type of report	- 01/FR (first report)
A	Ship	- Name, call sign, IMO identification number and flag of the vessel
B	Date/time (UTC)	- A 6 – digit group giving date of month (first two digits), hours and minutes (last 4 digits)
C	Present position	- A 4-digit group giving latitude in degrees and minutes suffixed with “N” or “S” and a five-digit group giving longitude in degrees and minutes suffixed with “E” or “W”
E	Course	- a three digit group giving the course in degrees
F	Speed	- a three digit group giving a speed in Knots
G	Departure	- port of departure
I	Destination and estimated time of arrival	- ETA in UTC expressed as in B above, followed by port of destination
N	Estimated time of arrival at the next check point	- Date/time group expressed by a 6-digit group, as in B above, followed by the parallel of the check point
O	Draught of the vessel	- draught expressed by a four digit group indicating centimetres
P	Cargo information	- the general category of hazardous cargo as defined by the IMDG, IBC, IGC Codes and MARPOL Annex I.
T	Agent	- ship’s representative and/or owner available on 24-hour basis
U	Size and type	- type, DWT, GT, and length overall in meters
W	Total number of persons on board	- The total number of crew and other persons on board
X	Miscellaneous	- Any other relevant information

ANNEX 4

**FORMAT OF “ADRIATIC TRAFFIC” SHIP REPORTING SYSTEM POSITION
REPORT/ FINAL REPORT**

	Message identifier:	- ADRIREP
	Type of report	<ul style="list-style-type: none"> - 01/PR (position report) - 02/PR - 03/PR - ER (final report)
A	Ship	- Name, call sign, IMO identification number and flag of the vessel
B	Date/time (UTC)	- A 6 – digit group giving date of month (first two digits), hours and minutes (last 4 digits)
C	Present position	- A 4-digit group giving latitude in degrees and minutes suffixed with “N” or “S” and a five-digit group giving longitude in degrees and minutes suffixed with “E” or “W”
E	Course	- a three digit group giving the course in degrees
F	Speed	- a three digit group giving a speed in Knots
G	Departure	- port of departure
I	Destination and estimated time of arrival	- ETA in UTC expressed as in B above, followed by port of destination
N	Estimated time of arrival at the next check point	- Date/time group expressed by a 6-digit group, as in B above, followed by the parallel of the check point
X	Miscellaneous	- Any other relevant information

Note: The format of the position/final report shall contain in addition to this format any other field which differs from the information provided in the last report.

ANNEX 6

**DRAFT RESOLUTION MSC...(76)
(adopted on [.. December 2002])****RECOMMENDATION ON NAVIGATION THROUGH
THE ENTRANCES TO THE BALTIC SEA**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO regulation V/10 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, concerning the adoption by the Organization of ship routing systems,

RECALLING FURTHER resolution A.858(20) which *inter alia* authorizes the Committee to perform the function of adopting routing measures other than traffic separation systems on behalf of the Organization,

TAKING INTO ACCOUNT the General Provisions on Ships' Routing adopted by the Organization by resolution A.572(14), as amended,

TAKING NOTE OF:

- a. Resolution 5 on Intentional pollution of the sea and accidental spillages adopted by the International Conference on Marine Pollution, 1973
- b. Resolution A.159(ES.IV) - Recommendation on pilotage
- c. SOLAS chapter V, regulation 19 on Carriage requirements for shipborne navigational systems and equipment
- d. Resolution A.579(14) - Recommendation on use of pilotage services in the Sound and resolution A.620(15) - Recommendation on navigation through the entrances to the Baltic Sea
- e. The established routing system (Route T) through the entrances to the Baltic Sea
- f. The established ship reporting system in the Great Belt Traffic (GBT) area,

BEING AWARE of the close relationship between safety of navigation and the prevention of pollution from ships,

NOTING that, at several places, the entrances to the Baltic Sea are difficult to navigate,

NOTING ALSO that, owing to the risk of grounding or collision and the strong sea current, the navigation of large ships through the entrances to the Baltic Sea constitutes a potential danger of pollution of the entrances and of the entire Baltic Sea area,

NOTING FURTHER that loaded oil and chemical tankers, gas carriers and ships carrying a cargo of Irradiated Nuclear Fuel, Plutonium and High level Radioactive Wastes (INF-cargoes) constitute a potential danger of pollution of the entrances to the Baltic Sea and a potential hazard to international shipping,

HAVING CONSIDERED the recommendations of the Sub-Committee on Safety of Navigation at its forty-eighth session,

1. ADOPTS, in accordance with SOLAS regulation V/10, the Recommendation on navigation through the entrances to the Baltic Sea, as given in the Annexes to the present resolution;
2. DECIDES that the said Annexes will enter into force at 0000 hours UTC on [1 December 2003];
3. REQUESTS the Secretary-General to bring this resolution and its Annexes to the attention of Member Governments and Contracting Governments to the SOLAS Convention.

ANNEX 1

RECOMMENDATION ON NAVIGATION THROUGH THE ENTRANCES TO THE BALTIC SEA

ROUTE - T

1 Ships over 40,000 tonnes deadweight, when passing through the entrances to the Baltic Sea, in view of the fact that 17 metres is the maximum obtainable depth without dredging in the area north-east of Gedser and that the charted depths, even under normal conditions, may be decreased by as much as 2 metres owing to unknown and moving obstructions, should:

- (i) not pass the area unless they have a draught with which it is safe to navigate through the area, taking into account the possibility of depths being as much as 2 metres less than charted, as mentioned above, and additionally taking into account the possible changes in the indicated depth of water caused by meteorological or other effects;
- (ii) participate in the ship reporting system (SHIPPOS) operated by the Government of Denmark; and
- (iii) exhibit the signal prescribed in rule 28 of the International Regulations for Preventing Collisions at Sea, 1972, in certain areas in the Store Bælt (Hatter Rev, Vengeancegrund and in the narrow route east of Langeland), when constrained by their draught.

2 Ships with a draught of 11 metres or more should, furthermore:

- (i) use for the passage the pilotage services locally established by the coastal States; and
- (ii) be aware that anchoring may be necessary owing to the weather and sea conditions in relation to the size and draught of the ship and the sea level and, in this respect, take special account of the information available from the pilot and from radio navigation information services in the area.

3 Ships irrespective of size or draught, carrying a shipment of Irradiated Nuclear Fuel, Plutonium and High Level Radioactive Wastes on board ships (INF-cargoes) should:

- (i) participate in the ship reporting system (SHIPPOS) operated by the Government of Denmark; and
- (ii) use for the passage the pilotage services locally established by the coastal States.

4 Shipowners and masters should consider the full potential of the new and improved navigation equipment introduced in the amended SOLAS chapter V, including Electronic Chart Display and Information System (ECDIS) when navigating in these narrow waters.

ANNEX 2

RECOMMENDATION ON NAVIGATION THROUGH THE ENTRANCES TO THE BALTIC SEA

THE SOUND

1 Loaded oil tankers with a draught of 7 metres or more, loaded chemical tankers and gas carriers, irrespective of size, and ships carrying a shipment of Irradiated Nuclear Fuel, Plutonium and High level Radioactive Wastes (INF-cargoes), when navigating the Sound between a line connecting Svinbaadan Lighthouse and Hornbaek Harbour and a line connecting Skanör Harbour and Aflandshage (the southernmost point of Amager Island) should:

- .1 use the pilotage services established by the Governments of Denmark and Sweden; and
- .2 be aware that anchoring may be necessary owing to the weather and sea conditions in relation to the size and draught of the ship and the sea level and, in this respect, take special account of the information available from the pilot and from radio navigation information services in the area.

2 Ship owners and masters should consider the full potential of the new and improved navigation equipment introduced in the amended SOLAS chapter V, including Electronic Chart Display and Information System (ECDIS) when navigation in these narrow waters.

ANNEX 7**RECOMMENDATIONS ON NAVIGATION THROUGH
THE GULF OF FINLAND TRAFFIC AREA****1 Use of ships routeing system**

The Traffic Separation Schemes in the Gulf of Finland have been adopted by IMO and rule 10 of the International Regulations for Preventing Collisions at Sea applies. Subject to any factors that may adversely affect safe navigation, ships (especially oil and chemical tankers, ships carrying hazardous cargo and deep draught ships) proceeding from the Baltic Sea to the Gulf of Finland and vice versa are strongly recommended to use the traffic separation schemes in the Gulf of Finland.

Ships crossing the east-westerly flow of traffic between the traffic separation schemes should cross as nearly as practicable at right angles to the traffic flow. Ships leaving or joining the east-westerly flow of traffic between the traffic separation schemes should do it at as small an angle as practicable to the recommended directions of traffic flow.

2 Crossing traffic

In the ice-free season there is heavy crossing traffic consisting mainly of high-speed craft between Helsinki and Tallinn. This increases the risk of collision in this area. Mariners are reminded that when risk of collision is deemed to exist the rules of the 1972 Collision Regulations fully apply and in particular the rules of part B, sections II and III, of which rules 15 and 19(d) are of specific relevance in a crossing situation.

3 Fishing and recreational sailing activities

Mariners should be aware that concentrations of recreational craft may be encountered between Porkkala, Helsinki and Tallinn in summer and should navigate with caution. Fishing vessels are reminded of the requirements of rule 10(i), and sailing vessels and all other vessels of less than 20 metres in length of the requirements of rule 10(j) of the 1972 Collision Regulations.

4 Pilotage

Under national laws pilotage is mandatory in territorial waters.

5 Defects affecting safety

Ships having defects affecting operational safety should take appropriate measures to overcome these defects before entering the Gulf of Finland.

ANNEX 8**DRAFT SN CIRCULAR****DANGERS OF CONFLICTING ACTIONS IN COLLISION AVOIDANCE**

1 The Sub-Committee on Safety of Navigation, at its forty-sixth session (10 to 14 July 2000), noted reports of the relatively high frequency of conflicting actions resulting in collisions, especially in meeting and fine crossing situations. Reports of collision cases indicated that, at times, in head-on or near head-on encounters rule 8(d) was applied in isolation of the other Steering and Sailing Rules, resulting in conflicting actions and collisions. It was reported that in some such cases, one vessel took avoiding action by turning to port and the other by turning to starboard.

2 At the twenty-second session of the Assembly (19 to 30 November 2001), some amendments were adopted to the International Regulations for Preventing Collisions at Sea 1972. To avoid the application of rule 8 in isolation of the other Steering and Sailing Rules, rule 8(a) was amended to read as follows:

“Any action to avoid collision shall be taken in accordance with the rules of this Part and, if the circumstances of the case admit, be positive, made in ample time and with due regard to the observance of good seamanship.”

3 The amendment will come into force on 29 November 2003.

4 Member Governments are invited to bring this circular to the attention of shipmasters, navigating officers and nautical training establishments.

ANNEX 9**DRAFT MSC CIRCULAR****GUIDANCE NOTE ON THE PREPARATION OF PROPOSALS FOR SUBMISSIONS
ON SHIPS' ROUTEING SYSTEMS AND SHIP REPORTING SYSTEMS**

1 The Maritime Safety Committee, [at its seventy-sixth session (2 to 13 December 2002)], with a view to ensuring the proper development, drafting, and submission of proposals for ships' routeing systems and ship reporting systems, approved the Guidance Note on the Preparation of Proposals for Submission on Ships' Routeing Systems and Ship Reporting Systems prepared by the Sub-Committee of Safety of Navigation at its forty-eight session, as set out in the annex. The attached annex also facilitates the assessment and approval of such proposals by the Sub-Committee on Safety of Navigation and final adoption by the Maritime Safety Committee.

2 Member Governments are invited to use the annexed Guidance Note when developing, drafting, and submitting ships' routeing and reporting system proposals and to bring the annexed Guidance Note to the attention of all parties concerned.

ANNEX

GUIDANCE NOTE ON THE PREPARATION OF PROPOSALS FOR SUBMISSIONS ON SHIPS' ROUTEING SYSTEMS AND SHIP REPORTING SYSTEMS

INTRODUCTION

1 GENERAL

1.1 The purpose of this document is to provide information to Member Governments in the development, drafting, and submission of proposals to the International Maritime Organization (IMO) for ships' routeing systems and ship reporting systems. This document sets forth the issues that should be included in such proposals to facilitate their assessment and approval by the Sub-Committee on Safety of Navigation (NAV) and final adoption by the Maritime Safety Committee (MSC).

1.2 Ships' routeing systems and ship reporting systems can be established to improve safety of life at sea, safety and efficiency of navigation, and/or increase the protection of the marine environment. Proposals for a ships' routeing system or a ship reporting system submitted to NAV should be in accordance with the IMO rules and procedures for the submission of documents. After a proposal has been approved by NAV, NAV will forward the proposal to the MSC for final adoption. A new or amended IMO-adopted ships' routeing system or ship reporting system will not come into force earlier than six months after adoption or, if later than six months, on a date proposed by the proposing Member Government(s), after it has communicated such a date to IMO.

SHIPS' ROUTEING SYSTEMS

2 APPLICABLE REQUIREMENTS FOR SHIPS' ROUTEING SYSTEMS

2.1 Regulation 10 of chapter V of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, provides the authority for the adoption of ships' routeing systems by IMO. Ships' routeing systems adopted by IMO are recommended for use by, and may be made mandatory for, all ships, certain categories of ships, or ships carrying certain cargoes. The initiation of action to establish a routeing system is the responsibility of the Member Government or Governments concerned.

2.2 Part A of the IMO publication, *Ships' Routeing*, sets forth the General Provisions on Ships' Routeing (GPSR) (resolution A.572(14), as amended). These provisions delineate the details of establishing a ships' routeing system, including definitions of the types of systems available; the procedures and responsibilities of Member Governments and IMO; the planning of, and methods for, establishing a system; design criteria; use of the system; and representation of systems on charts. When developing a proposal, Member Governments should in particular consult the GPSR for the definition of the type of system desired, the method for establishing that particular type of system, and, if the system is a traffic separation scheme or a deep-water route, including the specific information pertaining to those types of systems.

2.3 In addition to the information in this document, Member Governments should also consult the latest versions of SOLAS chapter V, regulation 10 and the General Provisions on Ships' Routing, as amended.

3 ELEMENTS OF A PROPOSAL

3.1 Summary

The proposal should first set forth the objectives for submitting the routing system, the demonstrated need for its establishment, and the reasons why the proposed system is preferred. This should include any history of groundings, collisions, or damage to the marine environment. This summary should also state whether the system applies to all ships, certain categories of ships, or ships carrying certain cargoes. Additionally, the summary should set forth the proposed impact on navigation, including the expected impact on shipping.

3.2 Description of the Area

The proposal must contain the location of the proposed area, including the geographical positions; the number, edition, and geodetic datum of the reference chart used to delineate the routing system; and a chartlet on which the proposed routing system is marked. It is important that the geographical positions are thoroughly checked to ensure that they are correct. Member Governments must bring an appropriate full-scale nautical chart, with the routing system delineated on it, to the meeting of NAV at which the proposal is being considered.

3.3 Co-operation between States

Where two or more Governments have a common interest in a particular area, they should formulate a joint proposal for the routing system with integrated measures and procedures for co-operation between the jurisdictions of the proposing Governments. If any bilateral or multilateral agreements have been reached pertaining to the joint proposal, reference should be made to such agreements.

3.4 Traffic Considerations

3.4.1 Routes should follow as closely as possible existing patterns of traffic flow, course alterations along the route should be as few as possible, and convergence areas and route junctions should be kept to a minimum and should be as widely separated from each other as possible. Route junctions and convergence areas should not be placed where crossing traffic is expected to be heavy.

3.4.2 The proposed routing system should aim to provide safe passage for ships and thus the proposal should include the following information:

- .1 existing and proposed aids to navigation. Routes should be designed to allow optimum use of aids to navigation in the area. For traffic separation schemes, such aids to navigation should enable mariners to determine their position with sufficient accuracy to navigate in accordance with rule 10 of the 1972 Collision Regulations.

- .2 traffic patterns. Information should be provided to the extent possible on:
 - traffic patterns,
 - existing traffic management measures,
 - the volume or concentration of traffic,
 - vessel interactions,
 - distance offshore, and
 - type and quantity of substances on board (e.g., hazardous cargo, bunkers);
- .3 adequacy of the state of hydrographic surveys and nautical charts in the area of the proposed routeing system;
- .4 any alternative routeing measure, if necessary, for all ships, certain categories of ships, or ships carrying certain cargoes which may be excluded from using a routeing system or any part thereof; and
- .5 any drilling rigs, exploration platforms, and other offshore structures that may exist in the vicinity of the proposed routeing system. Member Governments should ensure, as far as practicable, that such structures are not established within the traffic lanes of routeing systems or near their terminations.

3.5 Marine Environmental Considerations

- .1 The proposal should contain information on environmental factors, such as the prevailing weather conditions, tidal streams, and currents, and the possibility of ice concentrations. Routeing systems should not be established in areas where the instability of the seabed is such that frequent changes in the alignment and positions of the main channels, and thus of the routeing system itself, are likely.
- .2 For proposals intended to protect the marine environment, the proposal should state whether the proposed routeing system can reasonably be expected to significantly prevent or reduce the risk of pollution or other damage to the marine environment of the area concerned. The proposal should also contain information on any limitations to the sea area available for navigation given the overall size of the area to be protected and the aggregate number of environmentally sensitive areas established within the area concerned.

3.6 Mandatory Routeing Systems

The proposal should clearly state whether the routeing system is being proposed as recommendatory or mandatory. In submitting a proposal for a mandatory system, the Government concerned must provide the following additional information:

- .1 Proper and sufficient justification for making the system mandatory;
- .2 Whether the ports and harbours of littoral States would be adversely affected by the system; and

- .3 Whether the mandatory routeing system is limited to what is essential in the interest of safety of navigation and protection of the marine environment.

3.7 Position-fixing in relation to the routeing system

Member Governments should submit information indicating the availability of position-fixing aids or services.

3.8 Miscellaneous Information

Member Governments should also consider submitting the following information:

- .1 presence of fishing grounds in the area of the proposed system, the existing activities and foreseeable development of offshore exploration and exploitation of the seabed, offshore structures, and foreseeable changes in the traffic pattern because of port or offshore terminal development;
- .2 a summary of other measures taken in the area of the proposed system;
- .3 any consultations that have taken place with mariners using the area, port authorities, or other groups with an interest in the area; and
- .4 in the case of a mandatory system, the details of the measures to be taken to monitor compliance with the system and the actions intended if a ship fails to comply with its requirements.

4 STANDARD FORMAT

4.1 Proposing Governments should refer to the appropriate section of the latest version of the GPSR for examples of the correct format for the description of the proposed routeing measures. All proposals for routeing measures should contain in an annex, the description of the proposed routeing measure in accordance with the standard format used for the type of measure in the General Provisions for Ships' Routeing.

SHIP REPORTING SYSTEMS

5 APPLICABLE REQUIREMENTS FOR SHIP REPORTING SYSTEMS

5.1 Regulation 11 of chapter V of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, provides the authority for the adoption of ship reporting system by IMO. Resolution MSC.43(64), as amended by resolution MSC.111(73) - Guidelines and criteria for ship reporting systems should, in accordance with regulation V/11, be complied with by Contracting Governments when planning and proposing ship reporting systems to the Organization for adoption and implementation of such systems after adoption. Ship reporting systems so adopted will be mandatory for use by all ships, certain categories of ships, or ships carrying certain cargoes. In addition to the information in this document, Contracting Governments should also consult the latest versions of SOLAS regulation V/11 and the Guidelines and Criteria for Ship Reporting Systems, as amended.

5.2 In addition to the adoption of mandatory ship reporting systems, the Organization may also review and recognize those ship reporting systems of a recommendatory nature and Contracting Governments are encouraged to submit such systems to the Organization in accordance with paragraph (e) of SOLAS regulation V/11. Such systems will be recommended by the Organization for voluntary use in international waters, if they comply as near as practicable with SOLAS regulation V/11 and these guidelines and criteria.

6 CRITERIA FOR PLANNING AND PROPOSING SHIP REPORTING SYSTEMS BY CONTRACTING GOVERNMENTS

6.1 It is the responsibility of the Contracting Government or Governments to plan and propose to the Organization and implement ship reporting systems including amendments to such systems.

6.2 General considerations for planning or amending ship reporting systems for adoption

6.2.1 A Contracting Government or Governments should establish the objectives and demonstrated need for the system. The Proposal should clearly define the area covered by the system. All information for effective utilization of such a system by mariners should be conveyed to the appropriate maritime Administrations and hydrographic authorities at least six months prior to the date of implementation.

6.2.2 The report required should be limited to information essential to achieve the objectives of the system. The initial report should be limited to the ship's name, call sign, IMO identification number, if applicable, and position. Other supplementary information may also be requested in the initial report if justified in the proposal as necessary to ensure the effective operation of the system. Such supplementary information may include, for example, the intended movement of the ship through the area, any operational defects or difficulties affecting the ship, and general categories of any hazardous cargoes on board. In the case of an emergency or threat to the marine environment, a request may be made that the precise details of any hazardous cargoes be provided as soon as possible.

6.2.3 In planning or revising a system, Contracting Governments should take account of such factors as:

- .1 hydrographical and meteorological elements, such as prevailing winds and currents, shifting shoals, local hazards, aids to navigation, and visibility;
- .2 the character of ship traffic, including the density of such traffic, conflicting navigation patterns, narrow fairways, areas where ships converge or cross, the record of maritime casualties, the categories of ships navigating in the area, interference by ship traffic with other marine-based activities, and ships carrying hazardous cargoes or types and quantities of bunker fuel;
- .3 environmental considerations;
- .4 equipment requirements, and methods of ship-to-shore communication and data processing so as to ensure reliability and clear communication between the shore-based authority and participating ships;

- .5 the shore-based facilities (including hardware and software) and the personnel qualifications and training required to support the operation of the proposed system; and
- .6 the procedural and communication interfaces of the system with other maritime safety or pollution response systems, including any adjacent ship reporting system.

6.2.4 In planning a system, a Contracting Government should consider whether the authority exists, or should be established, under domestic law to assess violations of any proposed requirements of a system.

6.3 Co-operation between States

Where two or more Governments have a common interest in a particular area, they should formulate a joint proposal for the ship reporting system with integrated measures and procedures for co-operation between the jurisdictions of the proposing Governments. If any bilateral or multilateral agreements have been reached pertaining to the joint proposal, reference should be made to such agreements.

7 PROPOSING A SHIP REPORTING SYSTEM TO THE ORGANIZATION FOR ADOPTION

Systems and amendments thereto should be proposed to the Organization for adoption. The proposal should include:

- .1 the objectives and demonstrated need for the proposed system;
- .2 categories of ships required to participate in the system;
- .3 relevant information pertaining to the hydrographical and meteorological elements, the characteristics of ship traffic and any environmental aspects of the area;
- .4 the geographical coverage of the proposed system and the number and edition of the reference chart used for the delineation of the system;
- .5 the format and content of the reports required, the times and geographical positions for submitting reports, the shore-based authority to whom these reports should be sent and, if any are to be provided, the available services;
- .6 the information to be provided to the participating ship and the procedures to be followed;
- .7 the proposed communication requirements for the system, including frequencies on which reports should be transmitted and information to be reported;
- .8 the relevant rules and regulations in force in the area of the proposed system;

- .9 the shore-based facilities (including hardware and software) and personnel qualifications and training required to support the operation of the proposed system;
- .10 a summary of the measures used to date, if any, and the reasons why these measures are considered to be inadequate;
- .11 information concerning the applicable procedures if the communication facilities of the shore-based authority fail;
- .12 a description, if appropriate, of any plans that have been prepared for responding to an emergency involving the safety of life at sea or threats to the marine environment;
- .13 details of the measures to be taken if a ship fails to comply with the requirements of the system; and
- .14 the proposed effective date of the system which should be as soon as practicable but not earlier than six months after adoption by the Organization.

8 STANDARD FORMAT

8.1 Proposing Governments should refer to Part G of the IMO publication "Ships Routeing" for examples of the correct format for the description of the proposed ship reporting systems. The description of the proposed ship reporting system should be given in an annex to the submission for proposing a ship reporting system.

ANNEX 10**DRAFT MSC CIRCULAR****GUIDANCE FOR THE OPERATIONAL USE OF
INTEGRATED BRIDGE SYSTEMS (IBS)**

1 The Maritime Safety Committee, [at its seventy-sixth session (2 to 13 December 2002)], adopted the annexed Guidance for the operational use of Integrated Bridge Systems (IBS) which has been developed to support the safe operational use of an IBS by promoting procedures necessary to ensure adequate knowledge of system functions for Mode Awareness, Situational Awareness and Workload Management in addition to traditional seamanship.

2 The aim of the Guidance is to define the basis for minimum criteria on the operation, training and quality control for Integrated Bridge Systems. This Guidance is relevant to the operation of ships fitted with Integrated Bridge Systems (IBS), which include Integrated Navigation Systems INS (B) or (C), as per resolution MSC.86(70).

3 Member Governments are invited to bring this Guidance to the attention of all parties concerned.

ANNEX

DRAFT GUIDANCE FOR THE OPERATIONAL USE OF INTEGRATED BRIDGE SYSTEMS

Introduction

This guidance supports the safe operational use of an IBS by promoting procedures necessary to ensure adequate knowledge of system functions for Mode Awareness, Situational Awareness and Workload Management in addition to traditional seamanship.

The aim is to define the basis for minimum criteria on the operation, training and quality control for Integrated Bridge Systems.

1 Scope

This guidance is relevant to the operation of ships fitted with Integrated Bridge Systems (IBS), as per resolution MSC.64(67), annex 1, which include Integrated Navigation Systems INS (B) or (C), as per resolution MSC.86(70).

2 Definitions

For the purpose of this guidance, the following definitions apply.

2.1 Mode awareness

Mode awareness is based on the knowledge and purpose of various operation modes included in the IBS. Use of different operation modes should follow bridge procedures based on company automation policy.

2.2 Situational awareness

Situational awareness is the mariner's perception of the navigational and technical information provided at the INS workstation, the comprehension of their meaning and the projection of their status in the near future, as required for timely reaction to the situation that can be expected from his/her trained skills in the operation of the INS.

2.3 Failure analysis

The failure analysis aims to demonstrate that the system has a fail-to-safe functionality. The failure effects and their consequences are assessed for the installed components.

3 Bridge procedures

The bridge procedures, provided for the ship, should implement the functions, capabilities and limitations of the installed IBS. Especially the documentation should include clear instructions about conditions under which automatic control functions may be used or not.

Note: Automatic steering may only be useful where precise manoeuvring is required, if the automatic control system supports the required precision, e.g. by considering speed through water for rudder control.

The Company should have personnel ashore capable of supervising, training and evaluating the company Operational Procedures and operational use of the Integrated Bridge System.

3.1 Vessel Operating Manual (VOM)

The VOM should incorporate the Company policy for implementing and using automation and the Integrated Bridge System.

The operational manual consolidates and abbreviates the manufacturer's operational manuals to a comprehensive operational manual without detailed technical information.

The VOM should clarify the integration and the priority of subsystems within the control system. Special emphasis should be laid on the effect of subsystems on the total outcome of navigation control. Advantages and disadvantages between control and automation modes should be explained in a clear form. It should be clearly indicated for which situations, the different modes are designed.

The VOM should indicate corrective actions to be taken when the system gives alarm.

Operating limitations and their reasons should be thoroughly explained.

A description of the checklists and purpose of the specific items should be included in the VOM.

Terminology for standard Call-Outs should be developed by the Company and presented in the VOM.

Note: Where the VOM includes other items connected to the IBS, such as cargo handling or other vessel subsystems the resulting functions, capabilities and limitations should be addressed.

3.2 Normal procedures

Standard Operating Procedures for normal situations should cover normal operation at different stages of the passage including the vessel's operational limits, manoeuvring trial data and ship's data including squat and anchoring.

The route should be divided into zones according to the nature of navigation, as follows:

- Sea passage;
- Shallow waters, pilotage waters and fairways; and
- Harbour areas.

The standard operating procedures should be documented in the form of checklists demonstrating transition from one zone to another. The items to be listed are e.g. manning of the bridge and the use of automated equipment including the selection of subsystems and their modes of operations.

Manual or automatic heading, track and speed control modes and the required actions for changing modes should be clearly presented in the graphical or checklist flow chart form, if not clearly indicated by the equipment itself.

3.3 Emergency and abnormal procedures

Emergency and abnormal procedures are essential for optimum Workload Management.

The emergency procedures refer to SOLAS Conference 29.11.1995 'Decision support system for masters on passenger ships (SOLAS/Conf.3/46, Annex, page 14, regulation 24.4). Operation of Integrated Navigation, Control and Communication systems should be considered in the following procedures:

- Blackout;
 - Fire;
 - Stranding;
 - Collision;
 - Man-over-board situations;
 - Emergency assistance to other ships;
- (the list is not complete)

All emergency procedures should be presented in a logical structure, e.g. by listing each emergency control mode in the form of a checklist, and by providing appropriate overviews.

The abnormal procedures should focus on alarms and items not generally needed in normal operation. Typical situations are subsystem failures that require decisions regarding the level of automation to be used.

Both emergency and abnormal procedures should carefully consider the failure analysis of the system.

A list of alarms of different subsystems should be harmonized to cover the whole Integrated Bridge System. Special emphasis should be laid on operational procedures in case of an alarm to switch the system on a lower automation level, manual mode or to switch sensor.

Note: All checklists based on Standard Operational Procedures should be provided in an easy-to-handle, concise and durable form.

3.4 Passage plans

The Passage Plan should be programmed in the Integrated Navigation System. The normal procedures related to the route should be programmed in the waypoint data. The procedures should contain at least the following information:

- Speed and track limits;
- Control mode (e.g. heading, course, track and speed);
- Compulsory radio communication; and
- Reference to the checklists.

The route should be programmed with a safe practice taking into account traffic separations, fairway lines, channel marks, shallow waters and oncoming traffic.

The track limits should be sufficiently large to avoid operationally unnecessary alarms.

Passage planning should conform to resolution A.893(21) - Guidelines for voyage planning.

3.5 Records

The bridge procedures should include clear instructions on marking, starting, ending and storing of records and passage plans provided by the IBS.

Recording should conform to resolution A.916(22) - Guidelines for the recording of events related to navigation.

4 Implementing new technology

A modified IBS should only be put into normal operation after successful functional testing.

During all new equipment or new version tests, the procedure to switch to manual or emergency control should be obvious. The minimum requirement to conduct the procedure is one command per device. The procedure should be documented. A new system should not be operated before new manuals have been delivered and studied.

The test should start in a safe area with the technically simplest mode. The technical level can be increased when the crew is familiar with the mode and when the crew has ensured that the desired operational safety is achieved.

The officers should be aware of which area and which mode testing is allowed. Regular meetings should be held to plan and decide fixed time periods for the proceedings of the technical tests and operational training within the Company limits documented in the VOM.

5 Training programme

The company, in co-operation with the relevant manufacturers, should establish a training programme for all officers which have operational duties involving the IBS.

5.1 Knowledge-based training

In designing theoretical training packages, the following items should be amongst those to be considered:

- Manoeuvring characteristics of the ship;
- Operational limitations;
- Propulsion and control systems, both manual and automatic modes of operation and emergency controls;
- Communication systems;
- Integrated Navigation System; and
- Navigation and communications procedures for normal, abnormal and emergency situations.

5.2 Skill-based training

In designing theoretical skill-based training packages, the following items should be amongst those to be considered:

- Handling the ship in normal, abnormal and emergency situations;
- Using all available levels of automation relevant to the operational situation;
- Failure mode control; and
- Adherences to the Company's Standard Operating Procedures (SOP).

ANNEX 11**TECHNICAL ISSUES RELATING TO THE OPERATION OF
INTEGRATED BRIDGE SYSTEMS****1 Design philosophy****1.1 General**

The following considerations should be taken into account for the design of interconnection and combined functions of an IBS, in accordance with resolution MSC.64(67), Annex 1, and its components. The components of the IBS should conform to the relevant individual international standards.

1.2 Integration

The integration of sensors for speed, heading and position should be such that the change of a sensor or its malfunction does not result in sudden changes of control commands or in losing manoeuvring control. This may be accomplished by appropriate filtering techniques using the information from several sources.

1.3 Functionality

It should always be clear, from which workstation essential functions may be performed.

The system should be configured to ensure that only one user has the control of an input or function at the same time. If so, all other users should be informed about it by the IBS.

2 Design aspects**2.1 General**

The automatic speed control should be operated separately from the heading control.

The heading control and the automatic speed control should use a common Passage Plan database.

2.2 Heading equipment

The gyrocompass should be suitable for the speed and motion characteristics of the vessel, especially for systems which provide composite displays for radar images superimposed with chart information.

2.3 Speed measuring equipment

The method of measuring Speed and Course Over Ground with SDME versus satellites should be explained in the operation manual. The danger of loss of signal should be clarified.

2.4 Heading and Track control

2.4.1 Navigation displays

Navigation displays, in addition to the requirements for an INS (B), should also include information received from the AIS by binary message, upon selection.

2.4.2 Dynamic positioning system (DPS) and Integrated joystick controller

If a DPS or joystick control system is included in the IBS, it should conform to the relevant requirements of INS and Heading or Track Control System.

3 Operational aspects

3.1 General

The Control System is divided into automated systems, manual controls and emergency controls.

The **automatic control system** consists of the automatic steering, the automatic speed control and possibly the DPS, as relevant.

The **manual control system** contains individual steering and propulsion controls and possibly an integrated Joystick control.

The **emergency controls** are the main engine shut down and the override controls for steering and propulsion. The emergency controls should have direct access to the steering and propulsion devices without any automation functions.

A malfunction of the automation system should not prohibit switchover to the manual controls or to the emergency controls.

Changing of the control mode should indicate the operation mode clearly. When the control mode changes from manual to the automatic control, it should confirm the status of the set and the condition of the actuator. The order or command should be illustrated and followed.

When the control mode changes to the manual control from the automatic control, it should be possible to start manual operation from the position of the actuator.

When the control mode is changed to the Joystick or the DPS control from other control systems, there should be means to confirm that the rudder, the propulsion and the thruster actuators are in the condition to operate.

3.2 Manoeuvring stations

Transfer of the manoeuvre from one workstation to another should be permitted only by principle of calling it to the active workstation. The previous workstation should never block this transfer. The switchover should be possible by only one command. It is not allowed to use mechanical switches to transfer the manoeuvring responsibility between manoeuvring stations. A mechanical switch may block the manoeuvre to some specific station during a critical situation.

3.3 Controls

3.3.1 DP System and Integrated Joystick Controls (as relevant)

- .1 The Integrated Joystick controls and the DP systems are mainly designed for slow speed manoeuvring.
- .2 The DP System and the Integrated Joystick ON commands act as OFF commands to all other systems.
- .3 The DP System and the Joystick system are the only systems that have separate OFF commands. Joystick or DPS cannot be disconnected by other control systems.
- .4 The ON and OFF command devices should locate on the respective Joystick and DP System operation panels. The Joystick or DP OFF command places the control to the individual manual Follow Up levers.
 - Individual main propeller and rudder control Follow up tillers should follow the Joystick and DP commands. This procedure ensures that the lever is in correct angle when the Joystick or DP system is switched OFF.
 - If the thruster levers do not follow the Joystick or DP commands the levers should include buzzer alarms to indicate if not at zero position when not in use.
 - The thrusters should go to zero in case of a malfunction I the system. (Appendix, table 1)

3.3.2 Automatic steering and speed control

- .1 The heading control and the automatic speed control should be switched on with only one command each and they should be installed in the heading control operation panel. The ON command is an OFF command for other steering devices except for the DP system or the integrated Joystick control.
- .2 The Follow Up rudder tiller should be situated as close to the heading control unit as possible. The same applies to the Follow Up propulsion control levers. The heading control or the automatic speed control should not include an OFF command. They should be disconnected with the ON command from other steering devices (Appendix, table 2).

3.3.3 Individual manual controls

- .1 The individual manual controls should function according to the Follow Up principle. All the manual propulsion and rudder controls should follow the orders given by the automatic speed control, dynamic positioning device or the integrated Joystick system.

- .2 The individual controls should be switched on with one synchronous command for the main propellers and one for the rudders.
- .3 The individual thrusters should be switched on by separate commands.
- .4 The ON command is an OFF command for the same steering controls on other workstations.
- .5 Any manual control device should not disconnect the dynamic positioning or integrated Joystick control.
- .6 The steering arrangement should be so designed that the ship turns in the same direction as that of the wheel, tiller and joystick or control lever. (Appendix, table 3).

3.3.4 Emergency Controls

- .1 Emergency controls may be operated either according to the Non Follow Up or the Follow Up principle.
- .2 They should be switched on by individual commands at each device (starboard propeller, port propeller, independent or synchronized rudder controls).
- .3 The emergency system ON command should also disconnect the Integrated Joystick Control or the DP system.
- .4 The emergency controls should be clearly marked and easy to use. It applies to the emergency shutdown commands for the main engines and commands for propellers, rudders and thrusters.
- .5 Integrating the emergency controls with normal follow up manual controls can reduce human errors. (Appendix, table 4).

3.3.5 Control system alarms

- .1 Rudder and propulsion follow-up systems should generate visual and audible alarm at the emergency steering controls with a clear indication that the emergency controls should be used.
- .2 The alarm should be indicated in all cases when the manual follow-up controls cannot be used.
- .3 If the emergency rudder and propulsion controls are integrated with the follow-up controls used in normal manoeuvring a visual and audible alarm should indicate that the follow-up control is in emergency mode.

4 Documentations

4.1 Supplier's operational manuals

The operational manuals cover subsystems and technically different parts within the Integrated Navigation System. The manuals should also include operational procedures related to the nautical tasks, such as automatic plotting, piloting, monitoring pilotage and execution of the Passage Plan.

The documentation of an Integrated Joystick Control and Dynamic Positioning System should also inform about the hull forces during manoeuvring.

Integrated systems are programmed for special tasks with various parameters to meet the requirements of different vessel types and operation areas. The parameters are divided into different categories. The user should be provided with a list of the parameters with a description of their purpose. The parameters are usually grouped in three categories:

- Permanent parameters, which are inserted during maintenance.
- User defined parameters, which can be changed during operation.
- User defined parameters, which can be changed before operation.

Integrated Navigation Systems are subject to continual development. When new programme versions are installed the new manuals or pages to the manuals have to be delivered simultaneously. In case of loose-leaf documents, version numbers and dates of issue should be identifiable for every page.

APPENDIX

EXAMPLES OF CONTROL COMMANDS

Table 1

ON/OFF Push buttons on the operation panel	Integrated Joystick Control or Dynamic Positioning Systems (DPS) No mechanical switches are allowed to change control between manoeuvring stations.		
	PORT WING	CENTRE COMMAND CONSOLE	STARBOARD WING
ON request executed from the workstation to be used	ON Joystick or DP system on with one command	ON Joystick or DP system on with one command	ON Joystick or DP system on with one command
OFF request executed from the workstation in use	OFF Joystick or DP system off with one command	OFF Joystick or DP system off with one command	OFF Joystick or DP system off with one command
	The Joystick or DP OFF command places the control to the individual manual Follow Up levers.		

Table 2

Heading control and automatic Speed Control		
	CENTRE COMMAND CONSOLE	
	ON command for the Automatic Steering	
	ON command for the Automatic Speed Control	

Table 3

Manual Follow Up Controls		
PORT WING	CENTRE COMMAND CONSOLE	STARBOARD WING
On command for the Follow Up rudder control.	On command for the Follow Up rudder control.	On command for the Follow Up rudder control.
Independent control for dual rudders.	On command for helmsman's Follow Up rudder control.	Independent control for dual rudders.
ON command for individual Follow Up propulsion controls	ON command for individual Follow Up propulsion controls	ON command for individual Follow Up propulsion controls

Table 4

Emergency controls		
PORT WING	CENTRE COMMAND CONSOLE	STARBOARD WING
	ON command for EMERGENCY rudder control	
ON command for individual EMERGENCY propulsion controls.	ON command for individual EMERGENCY propulsion controls.	ON command for individual EMERGENCY propulsion controls.

ANNEX 12**DRAFT ASSEMBLY RESOLUTION****GUIDELINES ON PLACES OF REFUGE FOR SHIPS
IN NEED OF ASSISTANCE**

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

RECALLING ALSO that the International Convention on Maritime Search and Rescue, 1979, as amended establishes a comprehensive system for the rescue of persons in distress at sea, but does not address ships in need of assistance,

BEING AWARE that ships at sea sometimes find themselves in need of assistance relating to safety of life and protection of the marine environment,

RECOGNIZING the importance and the need to provide guidance to master and/or salvors of ships in need of assistance,

RECOGNIZING ALSO that provision of a common framework for coastal States to respond and determine effectively places of refuge for ships in need of assistance would materially enhance maritime safety and protection of the marine environment.

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its [seventy-sixth and seventy seventh] session [and by the Sub-Committee on Safety of Navigation at its forty-ninth session],

1. ADOPTS the Guidelines on places of refuge for ships in need of assistance, set out in the Annex to the present resolution;
2. INVITES Governments, to take these Guidelines into account when responding to requests for a place of refuge from ships in need of assistance;
3. REQUESTS the Maritime Safety Committee to keep the Guidelines under review and amend them as appropriate.

ANNEX

**GUIDELINES ON PLACES OF REFUGE FOR SHIPS
IN NEED OF ASSISTANCE**

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3	Guidelines for actions by coastal States
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1 General

1.1 Introduction

Objectives of providing a place of refuge

1.1.1 Where the safety of life is involved, the provisions of the SAR Convention should be followed. Where a ship is in need of assistance but safety of life is not involved, these guidelines should be followed.

1.1.2 The issue of “places of refuge” is not a purely theoretical or doctrinal debate but the solution to a practical problem: What to do when a ship finds itself in serious difficulty or distress, but at present the safety of life of persons involved is not implicated. Should the ship be brought into shelter near the coast or into a port or, conversely, should it be taken out to sea?

1.1.3 When a ship has suffered an incident, the best way of preventing damage or pollution from its progressive deterioration is to transfer its cargo and bunkers, and to repair the casualty. Such an operation is best carried out in a place of refuge.

1.1.4 However, to bring such a ship into a place of refuge near a coast may endanger the coastal State, both economically and from the environmental point of view, and local authorities and populations may strongly object to the operation.

1.1.5 Therefore, granting access to a place of refuge could involve a political decision which can only be taken on a case-by-case basis with consideration of the balance between the advantage for the affected ship and the environment resulting from bringing the ship into a place of refuge and the risk to the environment resulting from that ship being near the coast.

1.2 Background

1.2.1 There are circumstances under which it may be desirable to carry out a cargo transfer operation or other operations to prevent or minimize damage or pollution. For this purpose it will usually be advantageous to take the ship to a place of refuge.

1.2.2 Taking such a ship to a place of refuge would also have the advantage of limiting the extent of coastline threatened by damage or pollution, but the specific area chosen may be more severely threatened. Consideration must also be given to the possibility of taking the affected ship to a port or terminal where the transfer or repair work could be done relatively easily. For this reason the decision on choice and use of a place of refuge will have to be carefully considered.

1.2.3 The use of places of refuge could encounter local opposition and involve political decisions. The coastal States should recognize that a properly argued technical case, based on a clear description of the state of the casualty, would be of great value in any negotiations which may take place.

1.3 Purpose of the guidelines

1.3.1 The purpose of the guidelines is to provide shipmasters, shipowners (particularly in connection with the ISM Code and procedures arising therefrom), salvors and Member Governments with a framework enabling them to respond effectively and in such a way that, in any given situation, the efforts of the master and owner of the ship and the efforts of the government authorities are complementary. In particular, an attempt has been made to arrive at a common framework for assessing the situation of ships in need of assistance.

1.3.2 **These guidelines do not address the issue of operations for the rescue of persons** inasmuch as the practical difficulties that gave rise to the examination of the issue of places of refuge relate to problems other than those of rescue. Two situations can arise:

- the ship, according to its master's assessment, is in need of assistance but not in a distress situation (about to sink, fire developing, etc.) that requires the evacuation of those on board, or
- those on board have already been rescued, with the possible exception of those, who have remained aboard or have been placed on board to attempt to deal with the ship's situation.

1.3.3 **If, however, in an evolving situation, the people on board find themselves in distress, the rules applicable to rescue operations under the SAR Convention, the IAMSAR Manual and documents arising therefrom must have priority over the present guidelines (and procedures arising herefrom).**

1.3.4 In any case the competent MRCC has to be informed about any situation which may develop into a SAR incident.

1.3.5 Even though a rescue as defined in the SAR Convention is not involved, the safety of persons must nevertheless be constantly borne in mind in the application of these guidelines, particularly in two respects:

- if the ship poses a risk (explosion, serious pollution, etc.) to the life of persons in the vicinity (crews of salvage vessels, port workers, inhabitants of the coastal area, etc.);
- if persons voluntarily remain (master, etc.) or go (fire-fighters, experts, personnel of marine salvage or towage companies, etc.) on board to attempt to overcome the difficulties experienced by the ship.

1.4 Definitions

1.4.1 **Ship in need of assistance:** a ship in a situation, apart from one requiring rescue of persons on board, that could give rise to loss of the vessel or an environmental or navigational hazard.

1.4.2 **Place of refuge:** A place where a ship in need of assistance can take action to enable it to stabilize its condition and reduce the hazards to navigation, and to protect human life and the environment.

1.4.3 **MAS:** A maritime assistance service, as provided for by resolution [A...(..)], responsible for receiving reports in the event of incidents and serving as the point of contact between the shipmaster and the authorities of the coastal State in the event of an incident.

2 Guidelines for action required of masters and/or salvors in need of places of refuge

2.1 Appraisal of the situation

2.1.1 The master, where necessary with the assistance of his company¹ and/or the salvor should identify the reasons for the ship's need of assistance. (Refer to paragraph 1 of Appendix 1.)

2.2 Identification of hazards and assessment of associated risks

2.2.1 Having made the appraisal referred to in 1 above, the master, where necessary with the assistance of his company and/or the salvor, should estimate the consequences of the potential casualty, in the following three hypothetical situations, taking into account both the casualty assessment factors in his possession and also the cargo and bunkers on board:

- if the ship remains in the same position;
- if the ship reaches a place of refuge;
- if the ship is taken out to sea.

2.3 Identification of the required actions

2.3.1 The master and/or the salvor should identify the assistance they require from the coastal State in order to overcome the inherent danger of the situation. (Refer to paragraph 3 of Appendix 1.)

2.4 Contacting the authority of the coastal State

2.4.1 The master and/or the salvor should make contact with the coastal State in order to transmit to it the particulars referred to in 1 to 3 above. He must in any case transmit to the coastal State the particulars required under the international conventions in force. Such contact should be made through the State's MAS, as provided for in resolution [A...].

2.5 Establishment of responsibilities/communications with all parties involved

2.5.1 The master and/or the salvor notifies the MAS of the actions that he intends to take and within what period.

2.5.2 The MAS notifies the master and/or the salvor of the facilities that it can make available with a view to assistance or admittance, if required.

¹ As defined in the ISM Code.

2.6 Response actions

2.6.1 Subject, where necessary, to the coastal State's prior agreement, the master and owner of the ship should take the necessary response actions, such as signing a salvage or towage agreement or the provision of any other service for the purpose of dealing with the ship's situation.

2.7 Reporting procedures

2.7.1 The reporting procedures should be in accordance with the procedures laid down in the safety management system of the ship concerned under the ISM Code or Assembly resolution A.852(21), as appropriate.

3 Guidelines for actions expected of coastal States

The issue of places of refuge is causing coastal States to regard the problem of ships in need of assistance as no longer a purely private matter between the ship and its owner on the one hand and a vessel or vessels providing salvage assistance on an ad hoc or professional basis.

Under international law, a coastal State may require the ship's master or owner to take appropriate action within a prescribed time limit with a view to halting a threat of danger. In cases of failure or of urgency, the coastal State can exercise its authority in taking responsive action appropriate to the threat.

It is therefore important that coastal States establish procedures to address these issues, even where no established damage and/or pollution is involved.

In particular, every² coastal State should establish a Maritime Assistance Service (MAS), as provided for by resolution [A...(.)].

3.1 Assessment for a place of refuge

3.1.1 Generic assessment and preparatory measures

3.1.1.1 It is recommended to coastal States that they endeavour to establish procedures consistent with these guidelines by which to receive and act on requests for assistance with a view to authorizing where appropriate the use of a suitable place of refuge.

3.1.1.2 The maritime authorities (and, where necessary, the port authorities) should for each place of refuge make an objective analysis of the advantages and disadvantages of allowing a ship in need of assistance to proceed to a place of refuge, taking into consideration the analysis factors listed in paragraph 2 of Appendix 1.

3.1.1.3 The above analysis, which should take the form of contingency plans, is to be in preparation for the analysis provided for below when an incident occurs.

3.1.1.4 The maritime authorities, port authorities, authorities responsible for shoreside safety and generally all governmental authorities concerned should ensure that appropriate information

² Unless neighbouring States make the necessary arrangements to establish a joint centre.

sharing occurs and should establish communications and alert procedures (identification of contact persons, telephone numbers, etc).

3.1.1.5 They should plan the modalities for a joint assessment of the situation.

3.1.2 Event-specific assessment

3.1.2.1 Analysis factors

This analysis should include the following points:

- seaworthiness of the vessel, in particular buoyancy, stability, availability of means of propulsion and power generation, docking ability;
- nature and condition of cargo, stores, bunkers, in particular hazardous goods;
- distance and transit time to a place of refuge;
- whether the master is on board;
- the number of other crew and/or salvors and other persons on board and an assessment of human factors, including fatigue;
- the legal authority of the country concerned to require action of the ship;
- ship insured or uninsured;
- if the ship is insured, identification of the insurer, and the limits of liability available;
- agreement by the master and owner of the ship to the proposals;
- provisions of the financial security required;
- commercial salvage contracts already concluded by the master or owner of the ship;
- information on the intention of the master and/or salvor;
- designation of a representative of the shipowner;
- risk evaluation factors identified in appendix 1; and
- any measures already taken.

3.1.3 Expert analysis

3.1.3.1 An inspection team designated by the coastal State should board the ship, when appropriate and if time allows, for the purpose of gathering evaluation data. The team should be composed of persons with expertise appropriate to the situation.

3.1.3.2 The analysis must be undertaken by a comparison between the risks involved if the ship remains at sea and the risks that it would pose to the place of refuge and its environment. Such comparison should cover each of the following points:

- safeguarding of human life at sea;
- safety of persons at the place of refuge and its industrial and urban environment (risk of fire or explosion, toxic risk);
- risk of pollution;
- if the place of refuge is a port, risk of disruption to the port's operation (channels, docks, equipment, other installations); and
- evaluation of the consequences if a request for place of refuge is refused, including the possible effect on neighbouring States.

After the final analysis has been completed, the maritime authority should ensure that the other authorities concerned are appropriately informed.

3.2 Decision-making process for the use of a place of refuge

3.2.1 When permission to access to place of refuge is requested, there is no obligation for the coastal State to grant it, but the coastal State should weigh all the factors and risks in a balance and give shelter whenever reasonably possible.

3.2.2 In the light of the outcome of the assessment provided for above, the coastal State should take a decision to allow or refuse admittance, coupled, where necessary, with practical requirements.

3.2.3 The action of the coastal State does not prevent the shipowner or its representative from being called upon to take steps with a view to arranging for the ship to proceed to a place of refuge. As a general rule, if the place of refuge is a port, a security in favour of the port is required to guarantee payment of all expenses incurred in connection with the operation: measures to safeguard the operation, port dues, pilotage, towage, mooring operations, miscellaneous expenses.

APPENDIX 1

GUIDELINES FOR THE EVALUATION OF RISKS ASSOCIATED WITH THE PROVISION OF PLACES OF REFUGE

When conducting the analysis described in paragraph 1.1.1.1 of chapter III, in addition to the factors described in paragraph 1.2.1, the following should be considered.

1 Identification of events such as:

- fire
- explosion
- damage to the ship
- collision
- pollution
- impaired vessel stability
- grounding.

2 Assessment of risks related to the identified event taking into account:

.1 Environmental and social factors such as:

- safety of those on board
- threat to public safety
What is the nearest distance to populated areas?
- designated environmental areas
Are the place of refuge and its approaches located in sensitive areas such as areas of high ecological value which might be affected by possible pollution?
Is there, on environmental grounds, a better choice of place of refuge close by?
- sensitive habitats and species
- fisheries
Are there any offshore and fishery activities in the approaches to the place of refuge which can be endangered by the incoming problem vessel?
- economic/industrial facilities
What is the nearest distance to industrial areas?
- amenity resources
- facilities available
Are there transfer facilities, such as pumps, hoses, barges, pontoons?
Are there reception facilities for harmful and dangerous cargoes?
Are there repair facilities, such as dockyards, workshops, cranes?

.2 Natural conditions such as:

Prevailing winds in the area.
Is the place of refuge safely guarded against heavy winds and rough seas?
Tides and tidal currents.

- weather and sea conditions
- bathymetry
 - Minimum and maximum water depths in the place of refuge and its approaches.
 - The maximum draught of the ship to be admitted. Information on the condition of the bottom, i.e., hard, soft, sandy, regarding the possibility to ground a problem vessel in the haven or its approaches.
- seasonal effects including ice
- navigational characteristics
 - In the case of a non-sheltered place of refuge, can salvage and lightering operations be safely conducted?
 - Is there sufficient space to manoeuvre the ship, even without propulsion?
 - What are the dimensional restrictions of the ship, such as length, width and draught?
 - Description of anchorage and mooring facilities in the place of refuge
- operational conditions, particularly in the case of a port
 - Is pilotage compulsory and are pilots available?
 - Are tugs available? State their number and horsepower.
 - Are there any restrictions? If so, whether the ship will be allowed in the place of refuge, e.g. escape of poisonous gases, danger of explosion, etc.
 - Is a bank guarantee imposed on the ship before admission is granted into the place of refuge?

.3 Contingency planning such as:

- competent MAS
- roles and responsibilities of authorities and responders
 - Fire fighting capability
- response equipment needs and availability
- response techniques
 - Is there a possibility of containing any pollution within a compact area?
- international co-operation
 - Is there a disaster relief plan in the area?
- evacuation facilities (see paragraph 4.3 of guidelines)

.4 Foreseeable consequences (including in the media) of the different scenarios envisaged with regard to safety of persons and pollution, fire, toxic and explosion risks.

3 Emergency response and follow-up action such as:

- lightering
- pollution combating
- towage
- stowage
- salvage
- storage

APPENDIX 2

INTERNATIONAL CONVENTIONS APPLICABLE

At the international level, *inter alia* the following conventions constitute the legal context within which coastal States and ships act in the envisaged circumstances:

- United Nations Convention on the Law of the Sea (UNCLOS), in particular its article 221;³
- International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 (the Intervention Convention);
- International Convention on Salvage, 1989 (the Salvage Convention);
- International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 (the OPRC Convention);
- International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol of 1978 (MARPOL 73/78);
- International Convention on Maritime Search and Rescue 1979 (SAR 79)

³ “1. Nothing in this Part shall prejudice the right of States, pursuant to international law, both customary and conventional, to take and enforce measures beyond the territorial sea proportionate to the actual or threatened damage to protect their coastline or related interests, including fishing, from pollution or threat of pollution following upon a maritime casualty or acts relating to such a casualty, which may reasonably be expected to result in major harmful consequences.

“2. For the purposes of this article, “maritime casualty” means a collision of vessels, stranding or other incident of navigation, or other occurrence on board a vessel or external to it resulting in material damage or imminent threat of material damage to a vessel or cargo.”

ANNEX 13**DRAFT ASSEMBLY RESOLUTION****MARITIME ASSISTANCE SERVICE (MAS)**

THE ASSEMBLY,

NOTING the provisions of the SOLAS Convention contained in regulations V/2, VII/7-1 and VIII/12 thereof concerning reports to be made by ships in the event of dangers or incidents,

NOTING ALSO the provisions of the MARPOL Convention contained in article 8 thereof concerning reports to be made by ships in the event of incidents,

CONSIDERING that, in addition to the circumstances giving rise to mandatory reporting where the organizations to which reports are to be made have already been designated, it would be useful for the master of a ship in need of assistance to maintain the same contact point in each coastal State that may legitimately be affected by that ship's situation, particularly in connection with the search for a place of refuge,

CONSIDERING ALSO that States have the right to receive initial information and thereafter be kept informed of marine salvage operations conducted off their coasts at the initiative of parties with a legitimate interest in a ship in need of assistance,

CONSIDERING FURTHER that it would be useful for coastal States and easier for shipmasters if any such organizations with responsibility for receiving reports and thereafter continuing to maintain contact with the ship and its owner bore in all those States a common acronym representing minimum common duties laid down by IMO,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its [seventy-sixth] session and the Marine Environment Protection Committee at its [forty-eighth session],

1. RECOMMENDS that coastal States should establish a maritime assistance service (MAS) for the purpose of:

- .1 receiving the reports, consultations and notifications by the relevant IMO instruments referred to in Annex 1 to this resolution;
- .2 monitoring the ship's situation if a report as referred to in .1 discloses an incident that may give rise to a situation whereby the ship may be in need of assistance;
- .3 serving as the point of contact between the master and the coastal State if the ship's situation requires exchanges of information between the ship and the coastal State other than a distress situation that could lead to a search and rescue operation;
- .4 for serving as the point of contact between those involved in a marine salvage operation undertaken by private facilities at the request of parties having a legitimate

interest in the ship and the coastal State if the coastal State considers that it should monitor all phases of the operation.

2. URGES Governments to issue national instructions indicating to the MAS:
 - .1 the authority or organization to which it transmits information obtained from a ship; and
 - .2 the authority or organization from which it receives instructions concerning its action and the particulars to be transmitted to the ship,
3. INVITES Governments of coastal States that have established a MAS to forward to the IMO Secretariat the details (call numbers, call signs, etc) of their MAS for IMO to circulate such particulars so that eventually shipmasters and other persons or organizations concerned can make contact with it.
4. RECOMMENDS that Governments of coastal States while establishing a MAS take into consideration the guidelines set out in Annex 2.
5. REQUESTS the Maritime Safety Committee and the Marine Environment Protection Committee to keep this resolution under review and amend it as appropriate.

ANNEX 1

A LIST OF IMO INSTRUMENTS CONCERNED WITH MANDATORY REPORTING IN THE EVENT OF INCIDENTS INVOLVING SHIPS

- 1 SOLAS Convention:

Regulation V/2 (danger messages);
Regulation VII/7-1 (loss of packaged dangerous goods);
Regulation VIII/12 (accidents to nuclear ships).
- 2 MARPOL Convention:

Article 8 (reports on incidents involving the discharge or possible discharge of harmful substances);
Protocol I (provisions concerning reports on incidents involving the discharge or possible discharge of harmful substances (in application of article 8)).
- 3 International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 (the Intervention Convention):

Article III(a) and (f) (consultations; notifications).
- 4 International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 (the OPRC Convention):

Articles 4 and 5.
- 5 International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes in Flasks on Board Ships (INF Code):

Paragraphs 29 and 30.
- 6 Resolution A.851(20): General principles for ship reporting systems and ship reporting requirements, including guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants.
- 7 Any other appropriate IMO instrument drawn up after the adoption of the present resolution.

ANNEX 2

GUIDELINES ON A MARITIME ASSISTANCE SERVICE (MAS)

Introduction

The circumstances of a ship's operation that involve a MAS are not those requiring rescue of persons.

Three situations can arise:

- the ship is involved in an incident (e.g., loss of cargo, accidental discharge of oil) that does not impair its seakeeping ability but nevertheless has to be reported;
- the ship, according to its master's assessment, is in need of assistance but not in a distress situation (about to sink, fire developing, etc.) that requires the rescue of those on board; and
- the ship is found to be in a distress situation and those on board have already been rescued, with the possible exception of those who have remained aboard or have been placed on board to attempt to deal with the ship's situation;

If, however, in an evolving situation, the people on board find themselves in distress, the involvement of the MRCC and not the MAS will have priority.

1 Establishment of MASs

1.1 The establishment of a **MAS** should not entail the setting up of a new organization. In so far as the present guidelines are observed, the functions of the MAS could be discharged by an existing organization, such as an MRCC, a harbour master's office, a coast guard operations centre (if one exists) or another body.

1.2 The allocation of **MAS** functions to an MRCC could from a practical viewpoint be an advantageous and effective solution but would require the personnel to be well trained in distinguishing between circumstances causing a ship to find itself in a distress situation and circumstances placing a ship in a difficult situation but not in distress as defined in the SAR Convention and procedures arising therefrom. It should be recalled that the MRCC concept entails coordination of search and rescue operations. By contrast, a **MAS**, within the scope of the above resolution, is responsible only for receiving and transmitting communications and monitoring the situation. The use of two separate titles (MRCC and **MAS**) according to the cases dealt with is, however, essential.

1.3 The fact that the resolution recommends every coastal State to establish a **MAS** should not prevent neighbouring coastal States from combining their resources under suitable arrangements to operate a joint **MAS**.

1.4 Conversely, a coastal State should be able to establish more than one **MAS** if necessity so warrants.

2 Publicizing the establishment and existence of a MAS

2.1 Governments of coastal States are requested to notify IMO of the existence and details (call numbers, call signs, etc.) of their **MAS**, in accordance with the format contained in the appendix hereto.

2.2 The IMO Secretariat will periodically publish the collected particulars in a circular.

2.3 National organizations that disseminate nautical information are invited to publish such particulars.

3 Duties of MASs

3.1 In accordance with the above resolution, the functions of a **MAS** are the following:

- .1 to receive the reports, consultations and notifications provided for by the relevant IMO instruments in the event of an incident involving a ship;
- .2 to monitor the ship's situation if a report as referred to in .1 discloses an incident that may give rise to a situation where the ship is in need of assistance;
- .3 to serve as the point of contact between the master and the coastal State if the ship's situation requires exchanges of information between the ship and the coastal State other than a distress situation that could lead to a search and rescue operation;
- .4 to serve as the point of contact between those involved in a marine salvage operation undertaken by private facilities at the request of the shipowner and the coastal State if the coastal State considers that it should monitor the conduct of the operation.

3.2 The establishment of a **MAS** does not entail any reorganization of governmental or administrative responsibilities or duties since, in accordance with the above resolution, the **MAS** is only a contact point. It does, however, entail the implementation of procedures and instructions enabling the **MAS** to forward any given information to the competent organization and requiring the organizations concerned to go through the MAS in order to make contact with the ship.

National instructions should therefore indicate to the **MAS** at a minimum:

- the authority or organization to which it transmits the information obtained from a ship; and
- the authority or organization from which it receives instructions concerning its action and the particulars to be transmitted to the ship.

Nevertheless, as soon as information indicates that the ship's situation might subsequently require a rescue operation, the MRCC must be informed so that it can make preparations to respond if necessary.

3.3 The above resolution and the present guidelines would not prevent a government from allocating to its **MAS** duties other than those referred to above with regard to a ship in need of assistance.

4 Operation of a MAS

4.1 A **MAS** should be operational on a 24-hour basis.

4.2 It should be possible for the English language to be used in exchanges between a ship and a **MAS**.

4.3 **MASs** should be authorized by their respective governments to exchange with each other information concerning reports received and situations where the ships may be in need of assistance.

5 Communication facilities

With regard to provisions of communication facilities to **MASs**, circular COMSAR/Circ.18, entitled “Guidance on minimum communication needs of maritime rescue coordination centres (MRCCs)”, could be used as a basis.

APPENDIX TO ANNEX 2

NOTIFICATION OF A MAS TO THE IMO SECRETARIAT

MAS (*name of country and any supplementary details*)

Telephone: +

Fax: +

Telex:

Inmarsat C:

MMSI:

E-mail:

AFTN:

Watch on VHF channels:

Postal address:

Notification made on behalf of the Government of by (name, telephone number, fax number, e-mail and postal address)

ANNEX 14

**PROPOSED AMENDMENTS TO THE DRAFT REVISED FISHING VESSEL SAFETY
CODE AND THE VOLUNTARY GUIDELINES**

(Please refer to NAV 48/19/Add.1)

ANNEX 15

REVISED WORK PROGRAMME OF THE SUB-COMMITTEE

SUB-COMMITTEE ON SAFETY OF NAVIGATION (NAV)

		Target completion date/number of sessions needed for completion	Reference
1	Routeing of ships, ship reporting and related matters	Continuous	MSC 72/23, paragraphs 10.69 to 10.71 and 20.41 to 20.42; NAV 48/19, section 3
2	Casualty analysis (co-ordinated by FSI)	Continuous	MSC 70/23, paragraphs 9.17 and 20.4; NAV 48/19, section 15
H.1	World-wide radionavigation system (WWRNS)	3 sessions 2005	MSC 75/24, paragraph 22.37
	[.1 New developments in the field of GNSS, especially Galileo	2005	NAV 48/19, paragraph 16.3.1]
	[.2 Review and amendment of IMO policy for GNSS (resolution A.915(22))	2005	NAV 48/19, paragraph 16.3.2]
	[.3 Recognition of radionavigation systems as components of the WWRNS (resolution A.815(19))	2005	NAV 48/19, paragraph 16.3.3]
H.2	Feasibility study on carriage of VDR on existing cargo ships	2004 2003	MSC 73/21, paragraphs 11.31 and 18.22; NAV 48/19, section 8

Notes: 1 "H" means a high priority item and "L" means a low priority item. However, within the high and low priority groups, items have not been listed in any order of priority.

2 Items printed in bold letters have been selected for the provisional agenda for NAV 49.

Sub-Committee on Safety of Navigation (NAV) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.3	Large passenger ship safety: effective voyage planning for large passenger ships	2003	MSC 73/21, paragraph 18.23, MSC 74/24, paragraph 21.4; NAV 48/19, section 12
H.4	Places of refuge (in co-operation with COMSAR and MEPC)	2003	MSC 74/24, paragraph 21.31; NAV 48/19, section 5
H.5	Revision of the fishing vessel Safety Code and Voluntary Guidelines (co-ordinated by SLF)	2003	MSC 74/24, paragraph 21.5; NAV 47/13, paragraph 10.7
H.5	Revision of the performance standards for radar reflectors	2003	MSC 74/24, paragraph 21.29; NAV 48/19, section 9
H.6	Anchoring, mooring and towing equipment (co-ordinated by DE)	2003	MSC 74/24, paragraph 21.30 NAV 48/19, section 7
H.8	Measures to prevent accidents with lifeboats (co-ordinated by DE)	2003	MSC 74/24, paragraph 21.34; NAV 47/13, paragraph 10.7
H.9	Matters related to bulk carrier safety	2002	MSC 74/24, paragraph 21.6; NAV 47/13, Paragraph 10.7

Sub-Committee on Safety of Navigation (NAV) (continued)

		Target completion date/number of sessions needed for completion	Reference
H.7	Review of performance standards for radar equipment	2003 [2004]	MSC 74/24, paragraphs 9.16 to 9.17; MSC 75/24, paragraph 22.34; NAV 48/19, section 10
H.8	Review of the OSV Guidelines (co-ordinated by DE)	3 sessions	MSC 75/24, paragraph 22.4
H.9	Requirements for the display and use of AIS information on shipborne navigational displays	2004*	MSC 75/24, paragraph 22.35; NAV 48/19, paragraphs 18.29 to 18.33
H.10	Amendments to the DSC Code and the 1994 HSC Code (co-ordinated by DE)	2004*	MSC 75/24, paragraph 12.22 and paragraph 22.8; NAV 48/19, paragraphs 18.25 to 18.26
H.11	Measures to enhance maritime security	2004*	MSC 75/24, paragraph 22.9 NAV 48/19 paragraphs 18.34 to 18.55
H.12	ITU matters, including Radio-communication ITU-R Study Group 8 matters	2003	MSC 69/22, paragraphs 5.69 to 5.70; NAV 48/19, section 11

* To be included in the provisional agenda for NAV 49.
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Sub-Committee on Safety of Navigation (NAV) (continued)

		Target completion date/number of sessions needed for completion	Reference
L.1	Integrated bridge systems (IBS) operational aspects	2002	MSC 70/23, paragraph 20.17.2; NAV 46/16, section 5; NAV 47/WP.1, paragraphs 2.11 to 2.12
L.2 1	Revision of the forms of nuclear ship safety certificates (co-ordinated by DE)	2 sessions	MSC 75/24, paragraph 22.6

ANNEX 16**PROVISIONAL AGENDA FOR THE FORTY-NINTH SESSION****SUB-COMMITTEE ON SAFETY OF NAVIGATION (NAV) - 49TH SESSION**

Opening of the session

- 1 Adoption of the agenda
- 2 Decisions of other IMO bodies
- 3 Routeing of ships, ship reporting and related matters^{*}
- 4 Requirements for the display and use of AIS information on shipborne navigational displays
- 5 Places of refuge
- 6 Anchoring, mooring and towing equipment
- 7 Feasibility study on carriage of VDR on existing cargo ships
- 8 Revision of performance standards for radar reflectors
- 9 Review of performance standards for radar equipment
- 10 ITU matters, including Radiocommunication ITU-R Study Group 8 matters
- 11 Large passenger ship safety: effective voyage planning for large passenger ships
- 12 Measures to enhance maritime security
- 13 Amendments to the DSC Code and the 1994 HSC Code
- 14 World-wide radionavigation system
- 15 Casualty analysis^{*}
- 16 Work programme and agenda for NAV 50
- 17 Election of Chairman and Vice-Chairman for 2004
- 18 Any other business
- 19 Report to the Maritime Safety Committee

* Items under continuous review.

ANNEX 17

DRAFT SN CIRCULAR

**GUIDELINES FOR THE INSTALLATION OF A SHIPBORNE
AUTOMATIC IDENTIFICATION SYSTEM (AIS)**

1 The Sub-Committee on Safety of Navigation (NAV), at its forty-eighth session (8 to 12 July 2002), agreed on guidelines for the installation of a Shipborne Automatic Identification System (AIS), as given at annex, and also agreed that they should be issued for use on a voluntary basis. The Guidelines describe the shipborne AIS installation matters and are meant to be used by manufacturers, installers and surveyors to ensure good installation practices.

2 The Maritime Safety Committee, at its [seventy-sixth session (2 to 13 December 2002)], concurred with the Sub-Committee's views, approved the Guidelines as set out at annex and encouraged their use for AIS installation purposes on a voluntary basis.

3 Member Governments are invited to bring the annexed draft guidelines to the attention of all concerned.

ANNEX

DRAFT GUIDELINES FOR INSTALLATION OF SHIPBORNE AUTOMATIC IDENTIFICATION SYSTEM (AIS)

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1 General

The Automatic Identification System (AIS) Class A is defined by IMO and has been made a carriage requirement by the latest revision of SOLAS chapter V. AIS provides information that may be used for the navigation of the ship. It is therefore essential that the information provided by AIS be reliable.

The AIS itself has been standardised by the International Telecommunications Union (ITU) and the International Electrotechnical Commission (IEC) and is subject to type approval. In order to fulfil the reliability requirements of information exchange, care should be taken to ensure the AIS is correctly installed.

This document contains guidelines for manufacturers, installers, yards, suppliers and ship surveyors. It does not replace documentation supplied by the manufacturer.

The guidelines take into account the following conventions, regulations, instructions and guidelines:

- IMO resolution MSC.90(73) Annex 7, Adoption of amendments to the International Convention for the Safety of Life at Sea, 1974, as amended.
- IMO resolution MSC.74(69) Annex 3, Recommendation on performance standards for AIS.
- ITU Radio Regulations (RR).
- IEC 60092 (series), Electrical Installations on Ships.
- IEC 60533 Electrical and Electronic Installations in Ships – Electromagnetic Compatibility.

1.1 Survey

Surveys on Convention ships should be carried out in accordance with the rules laid down in resolution A.746(18) "Survey Guidelines under the harmonised system of survey and certification", and "Protocol of 1988 relating to the International Convention for the Safety of Life at Sea, 1974, as amended."

1.2 Documentation

For the AIS installation the following drawings shall be submitted:

- Antenna layout
- AIS arrangement drawing
- Block diagram (interconnection diagram)

An initial installation configuration report should be produced during installation and kept on board.

2 AIS Installation

2.1 *Interference to the Ship's VHF Radiotelephone*

The AIS shipborne equipment, like any other shipborne transceiver operating in the VHF maritime band, may cause interference to a ship's VHF radiotelephone. Because AIS is a digital system, this interference may occur as a periodic (e.g. every 20 s) soft clicking sound on a ship's radiotelephone. This affect may become more noticeable when the VHF radiotelephone antenna is located near the AIS VHF antenna and when the radiotelephone is operating on channels near the AIS operating channels (e.g. channels 27, 28 and 86).

Attention should be paid to the location and installation of different antennas in order to obtain the best possible efficiency. Special attention should be paid to the installation of mandatory antennas like the AIS antennas.

2.2 *VHF Antenna Installation*

2.2.1 Location

Location of the mandatory AIS VHF antenna should be carefully considered. Digital communication is more sensitive than analogue/voice communication to interference created by reflections in obstructions like masts and booms. It may be necessary to relocate the VHF radiotelephone antenna to minimize interference effects.

To minimise interference effects, the following guidelines apply:

- The AIS VHF antenna should have omnidirectional vertical polarisation.
- The AIS VHF antenna should be placed in an elevated position that is as free as possible with a minimum of 2 metres in horizontal direction from constructions made of conductive materials. The antenna should not be installed close to any large vertical obstruction. The objective for the AIS VHF antenna is to see the horizon freely through 360°.
- The AIS VHF antenna should be installed safely away from interfering high-power energy sources like radar and other transmitting radio antennas, preferably at least 3 m away from and out of the transmitting beam.
- Ideally there should not be more than one antenna on the same level. The AIS VHF antenna should be mounted directly above or below the ship's primary VHF radiotelephone antenna, with no horizontal separation and with a minimum of 2 m vertical separation. If it is located on the same level as other antennas, the distance apart should be at least 10 m.

2.2.2 Cabling

The cable should be kept as short as possible to minimise attenuation of the signal. Double screened coaxial cables equal or better than RG214 are recommended.

All outdoor installed connectors on the coaxial cables should be waterproof by design to protect against water penetration into the antenna cable.

Coaxial cables should be installed in separate signal cable channels/tubes and at least 10 cm away from power supply cables. Crossing of cables should be done at right angles (90°). Coaxial cables should not be exposed to sharp bends, which may lead to change the characteristic impedance of the cable. The minimum bend radius should be 5 times the cable's outside diameter.

2.2.3 Grounding

Coaxial down-leads should be used for all antennas, and the coaxial screen should be connected to ground at one end.

2.3 *GNSS Antenna installation*

Class A AIS should be connected to a GNSS antenna.

2.3.1 Location

The GNSS antenna should be installed where it has a clear view of the sky. The objective is to see the horizon freely through 360° with a vertical observation of 5 to 90° above the horizon. Small diameter obstructions, such as masts and booms, do not seriously degrade signal reception, but such objects should not eclipse more than a few degrees of any given bearing.

Locate the antenna at least three meters away from and out of the transmitting beam of high-power transmitters (S-Band Radar and/or Inmarsat systems). This includes the ship's own AIS VHF antenna if it is designed and installed separately.

If a DGNSS system is included or connected to the AIS system, the installation of the antenna should be in accordance with IEC 61108-4, Ed 1, annex D.

2.3.2 Cabling

To achieve optimum performance, the gain of the antenna pre-amplifier should match the cable attenuation. The resulting installation gain (pre-amplifier gain - cable attenuation) should be within 0 to 10 dB.

The coaxial cable between the antenna and the AIS shipborne station connector should be routed directly in order to reduce electromagnetic interference effects. The cable should not be installed close to high-power lines, such as radar or radio-transmitter lines or the AIS VHF antenna cable. A separation of one meter or more is recommended to avoid degradation due to RF-coupling. Crossing of antenna cables should be done at 90° to minimise magnetic field coupling.

All outdoor installed connectors on the coaxial cables should be waterproof by design to protect against water penetration into the antenna cable.

2.4 *Power source*

The AIS should be connected to an emergency power source.

2.5 Synchronization

After installation, the AIS should be synchronised properly on UTC and that position information, if provided, should be correct and valid.

3 *Bridge Arrangement*

3.1 *Minimum Keyboard and Display*

The functionality of the Minimum Keyboard and Display (MKD) should be available to the mariner at the position from which the ship is normally operated. This can be by means of the AIS' internal MKD (integrated or remote) or through the equivalent functionality on a separate display system

3.2 *Pilot plug*

A pilot input/output port is part of an AIS Class A station. A plug connected to this port should be installed on the bridge near the pilot's operating position so that a pilot can connect a Personal Pilot Unit (PPU).

The pilot plug should be configured as follows:

- AMP/Receptacle (Square Flanged (-1) or Free-Hanging (-2)), Shell size 11, 9-pin, Std. Sex 206486-1/2 or equivalent with the following terminations:
 - TX A is connected to Pin 1
 - TX B is connected to Pin 4
 - RX A is connected to Pin 5
 - RX B is connected to Pin 6
 - Shield is connected to Pin 9

3.3 *Display system*

If there is navigational equipment capable of processing and displaying AIS information such as ECDIS, radar or an integrated system available on board the ship, the AIS Class A mobile system may be connected to that system via the AIS Presentation Interface (PI). The PI (input/output) should meet the requirements of IEC 61162-2.

The display system can also include the functionality of an MKD, see 3.1.

3.4 *Installation of the BIIT (Built-in Integrity Test) function*

The AIS requires that an alarm output (relay) be connected to an audible alarm device or the ships alarm system, if available.

Alternatively, the BIIT alarm system may use the alarm messages output on the PI, provided its alarm system is AIS compatible.

4 Dynamic data input

4.1 External Sensors

The AIS has interfaces (configurable as IEC 61162-1 or 61162-2) for position, heading and rate of turn (ROT) sensors. In general, sensors installed in compliance with other carriage requirements of SOLAS Chapter V should be connected to the AIS.¹ The sensor information transmitted by AIS should be the same information being used for navigation of the ship. The interfaces should be configured as given in annex 3. Interfacing problems might occur if the existing sensors found on board do not have serial (IEC 61162) outputs.

4.2 Position, COG and SOG

GNSS sensors normally have IEC 61162 outputs for position, COG and SOG suitable for directly interfacing the AIS. However, it is important to note that:

- The Geodetic Datum of the position data transmitted by the sensor is WGS 84 and that an IEC 61162 DTM sentence is configured.
- AIS is able to process two reference points for its antenna position, one for external and one for an internal sensor. If more than one external reference point is used, the appropriate information needs to be input to the AIS to adjust reference point information.

4.3 Heading

A compass providing heading information is a mandatory sensor input to the AIS. A converter unit (e.g. stepper to NMEA) will be needed to connect AIS if the ship's compass does not provide an IEC 61162 output. Some ships of less than 500 gross tonnage may not carry a compass providing heading information.

4.4 Rate of Turn

All ships may not carry a Rate-Of-Turn (ROT) Indicator according to resolution A.526(13). However, if a rate-of-turn indicator is available and it includes an IEC 61162 interface, it should be connected to the AIS.

If ROT information is not available from a ROT indicator, the direction of turn may (optionally) be derived from heading information through:

- The compass itself,
- An external converter unit (see paragraph 4.3),
- The AIS itself (see annex 1).

¹ Installation of the AIS does NOT establish a need to install additional sensors above carriage requirements.

4.5 *Navigational Status*

A simple means should be provided for the operator to input the ship's navigational status (e.g. underway using engine, at anchor, not under command, restricted in ability to maneuver, etc) information into the AIS. The AIS may be connected to the ship's navigational status lights.

5 *Static Information*

The AIS standards require that certain static, voyage-related, and dynamic information be entered manually, normally by means of the MKD, or by means of IEC 61162 sentences "SSD" and "VSD" via the presentation interface if such provisions exist.

5.1 *Entered at initial installation of AIS*

Information that should be entered at the initial installation of the AIS includes:

- Maritime Mobile Service Identity (MMSI) number
- IMO vessel number
- Radio call sign
- Name of ship
- Type of ship
- Dimension/reference for position of the electronic position fixing device (EPFD) antenna (see paragraph 5.2)

Access to **MMSI, IMO number** and other AIS controls (like power and channel settings) will be controlled, e.g. by password.

The **Call Sign, Name of Ship** and **Type of Ship** should be input to the AIS, either manually using the MKD or by means of IEC 61162 sentences "SSD" and "VSD" via the PI. Type of Ship information should be in accordance with the table given in annex 2 (Table 18 from Rec. ITU-R M.1371-1).

For example, a cargo ship not carrying dangerous goods, harmful substances, or marine pollutants; would use identifier "70". Pleasure craft would use identifier "37". Note that those ships whose type identifier begins with a "3" should use the fourth column of the table.

Depending on the vessel, cargo and/or the navigational conditions, this information may be voyage related and would therefore need to be changed before beginning or at some time during the voyage. This is defined by the "second digit" in the fourth column of the table.

5.2 *Reference point of position*

The AIS stores one "external reference point" for the external GNSS antenna position and one "internal reference point" if an internal GNSS is to be used as fallback for position reporting. The locations of these reference points have to be set during installation using values A, B, C, D; as described in paragraph 5.3.

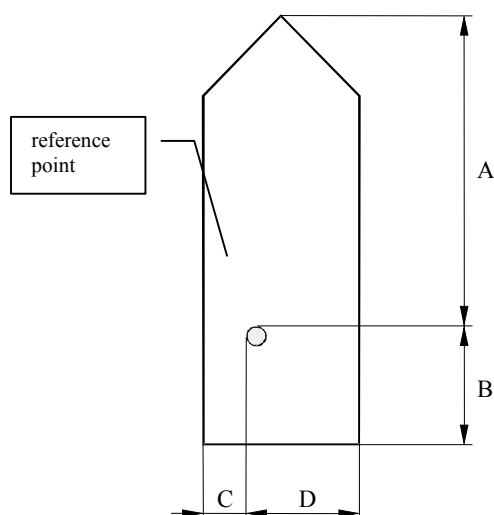
The external reference point may also be a calculated common reference position.

Additionally, the content of the Ship Static Data (“SSD”) sentence on the PI, including the “reference point for position” is being processed by the AIS, and the AIS’ memory for the “external reference point” is set in accordance with the content of this “SSD” (e.g. used by an INS).

5.3 Ship’s dimensions

Ship’s dimensions should be entered using the overall length and width of the ship indicated by the values A, B, C, and D in the following figure.

Ship’s dimensions (A+B and C+D) should be identical when entering internal and external reference points.



	Distance (m)
A	0 – 511 ; 511 = 511 m or greater
B	0 – 511 ; 511 = 511 m or greater
C	0 – 63 ; 63 = 63 m or greater
D	0 – 63 ; 63 = 63 m or greater

The dimension A should be in the direction of the transmitted heading information (bow)

Reference point of reported position not available, but dimensions of ship are available: A = C = 0 and B ≠ 0 and D ≠ 0.

Neither reference point of reported position nor dimensions of ship available: A = B = C = D = 0 (=default)

For use in the message table, A = most significant field, D = least significant field

In the rare case of an EPFD antenna installed in the portside corner of a rectangular bow, the values A and C would be zero. Should this be the case, one of these values should be set to 1 in order to avoid misinterpretation as “not available” because A=C=0 is used for that purpose.

6 Long-range function

The AIS’ long-range function needs a compatible long-range communication system (e.g. Inmarsat-C or MF/HF radio as part of the GMDSS).

If this is available, a connection between that communication system and the Class A mobile unit can be made. This connection is needed to activate the LR function of AIS. Its input/output port should meet the requirement of IEC 61162-2.

ANNEX 1

RATE OF TURN

The AIS provides the Rate of Turn (ROT) information to other ships in order to early detect ships manoeuvres. There are two possible parameters indicating turning of a ship derived from two different sensors (see Figure 3: ROT sensor input):

- the heading from a GYRO or THD and
- the rotation rate itself from a Rate of Turn-indicator.

If a Rate of Turn Indicator according to resolution A.526(13) is connected the AIS should use this information to broadcast both direction and value of turn on the VDL.

If valid ROT or HDG data is available from other external sources (Gyro, INS,...), the AIS should use this information to broadcast the direction of turn on the VDL, if greater than 5° in 30 s (might also be implemented as 2.5° in 15 s by configuration); the AIS may also derive ROT information from HDG internally for that purpose.

If no ROT information is available, the AIS should transmit default values indicating “not available”. ROT data should not be derived from COG information.

If a ship is not required to carry Turn-Indicator or if external sensor fails, the AIS should react according to following priorities:

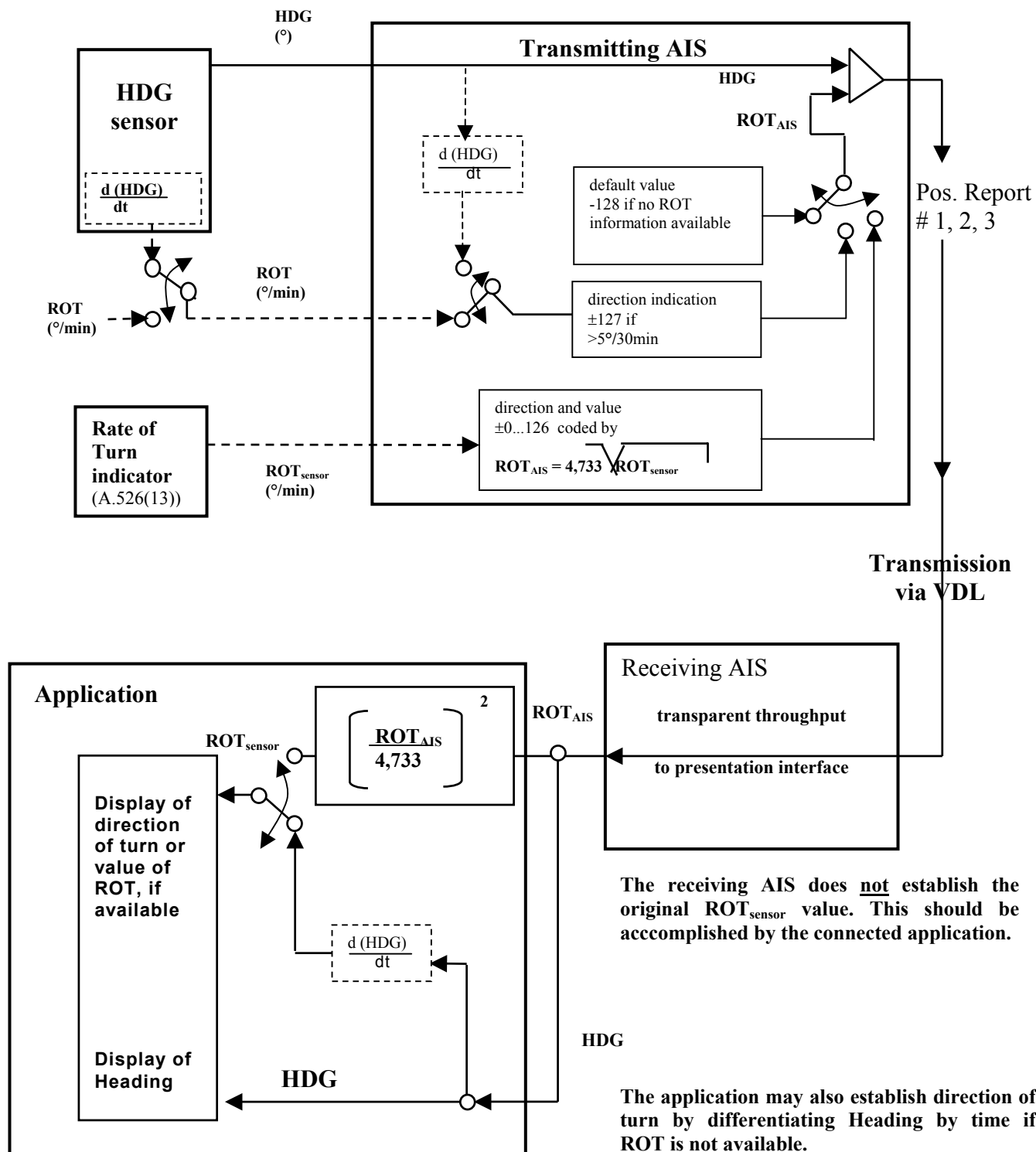
ROT sensor fallback conditions

Priority	Affected data in msg 1, 2, 3 ⇒	contents of ROT field
	Position Sensor status	
1.	Rate of Turn Indicator in use ¹	0..+ 126 = turning right at up to 708° per minute or higher; 0..- 126 = turning left at up to 708° per minute or higher Values between 0 and 708°/min should be coded by $ROT_{AIS} = 4.733 \sqrt{ROT_{sensor}} \text{ degrees/min}$ where ROT_{sensor} is the Rate of Turn as input by the external Rate of Turn Indicator (TI). Values of 709° per minute and above should be limited to 708° per min.
2.	other ROT source in use ²	+ 127 = turning right at more than 5°/30s (No TI available) 0 no turn - 127 = turning Left at more than 5°/30s (No TI available)
3.	no valid ROT information available	-128 (80 hex) indicates no turn information available (default)

¹ Rate of Turn Indicator according to resolution A.526(13); determined by talker ID

² i.e. based on HDG information

Rate of Turn sensor input overview



ANNEX 2

TYPE OF SHIP TABLE

Identifiers to be used by ships to report their type			
Identifier No.	Special craft		
50	Pilot vessel		
51	Search and rescue vessels		
52	Tugs		
53	Port tenders		
54	Vessels with anti-pollution facilities or equipment		
55	Law enforcement vessels		
56	Spare – for assignments to local vessels		
57	Spare – for assignments to local vessels		
58	Medical transports (as defined in the 1949 Geneva Convention and Additional Protocols)		
59	Ships according to Resolution No 18 (Mob-83)		
Other ships			
First digit (*)	Second digit (*)	First digit (*)	Second digit (*)
1 - reserved for future use	0 – All ships of this type	-	0 – Fishing
2 – WIG	1 – Carrying DG, HS, or MP IMO hazard or pollutant category A	-	1 – Towing
3 - see right column	2 – Carrying DG, HS, or MP IMO hazard or pollutant category B	3 – Vessel	2 – Towing and length of the tow exceeds 200 m or breadth exceeds 25 m
4 – HSC	3 – Carrying DG, HS, or MP IMO hazard or pollutant category C	-	3 – Engaged in dredging or underwater operations
5 – see above	4 – Carrying DG, HS, or MP IMO hazard or pollutant category D	-	4 – Engaged in diving operations
	5 – reserved for future use	-	5 – Engaged in military operations
6 – Passenger ships	6 – reserved for future use	-	6 – Sailing
7 – Cargo ships	7 – reserved for future use	-	7 – Pleasure Craft
8 – Tanker(s)	8 – reserved for future use	-	8 – reserved for future use
9 – Other types of ship	9 – No additional information	-	9 – reserved for future use

DG: Dangerous Goods.
HS: Harmful Substances.
MP: Marine Pollutants.

(*) NOTE – The identifier should be constructed by selecting the appropriate first and second digits.

ANNEX 3

RECOMMENDED IEC 61162 SENTENCES

To connect external sensors it is recommended to configure the following sentences as indicated below.

Preferred IEC 61162-1 Sensor Sentences

Data	IEC 61162-1 Sentence formatters	
	preferred	optional
Reference datum	DTM	
Positioning system: Time of position Latitude / Longitude Position accuracy	GNS GLL	GGA , RMC
Speed Over Ground (SOG)	VBW	VTG, OSD, RMC
Course Over Ground (COG)	RMC	VTG, OSD
Heading	HDT	OSD
RAIM indicator	GBS	
Rate Of Turn (ROT)	ROT	

ANNEX 18**DRAFT RESOLUTION MSC.[..](76)
(adopted on [... December 2002])****RECOMMENDATION FOR THE PROTECTION
OF THE AIS VHF DATA LINK**

THE MARITIME SAFETY COMMITTEE

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21), by which the Assembly resolved that the functions of adopting performance standards and technical specifications for radio and navigational equipment, as well as amendments thereto, shall be performed by the Maritime Safety Committee on behalf of the Organization,

RECALLING FURTHER resolution MSC.74(69), Recommendation on Performance Standards for an Universal Shipborne Automatic Identification System (AIS),

REALIZING the application of AIS devices to safety of navigation as well as security,

NOTING that the International Telecommunications Union Sector for Radiocommunications (ITU-R) recognizes a Class A category of AIS meeting the requirements of resolution MSC.74(69), as well as Class B and other categories of AIS not meeting the requirements of resolution MSC.74(69),

NOTING ALSO that Class A devices are intended to meet compulsory AIS fitting requirements of the SOLAS Convention, and Class B devices are intended to meet the needs of vessels, which fit AIS on a voluntary basis,

NOTING FURTHER the benefit of Class B devices,

RECOGNIZING that the radio channels used by AIS, particularly AIS 1 (161.975 MHz) and AIS 2 (162.025 MHz), are regarded as an AIS network, and any disruption to those channels by any one AIS device could affect the operation of all AIS devices on that network,

RECOGNIZING FURTHER the compelling need to ensure the integrity of the AIS VHF data link,

RECOMMENDS that:

1. Class B AIS devices, as well as any device which transmits on the radio channels AIS 1 or AIS 2, should meet the appropriate requirements of Recommendation ITU-R M.1371 (series);
2. The Class B AIS devices should be approved by the Administration;
3. Administrations should take steps necessary to ensure the integrity of the radio channels used for AIS in their waters.

ANNEX 19**DRAFT RESOLUTION MSC...(76)****ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CONVENTION
FOR THE SAFETY OF LIFE AT SEA, 1974, AS AMENDED**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING FURTHER article VIII(b) of the International Convention for the Safety of Life at Sea (SOLAS), 1974, hereinafter referred to as "the Convention", concerning the procedures for amending the Annex to the Convention, other than the provisions of chapter I thereof,

HAVING CONSIDERED, at its [seventy-sixth] session, amendments to the Convention proposed and circulated in accordance with article VIII(b)(i) thereof,

1. ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the Convention, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on [...], unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;
3. INVITES Contracting Governments to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on [...] upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization, which are not Contracting Governments to the Convention.

ANNEX

DRAFT AMENDMENTS TO SOLAS REGULATIONS V/2 AND V/22.1

CHAPTER V

SAFETY OF NAVIGATION

Regulation 2 - Definitions

- 1 Add a new paragraph as follows:

"4 Length of a vessel means her length overall."

Regulation 22 - Navigation bridge visibility

- 1 Replace the existing text of introductory paragraph 1, with the following text:

"1 Ships of not less than 45 m in length, as defined in regulation 2.4 of this chapter, constructed on or after 1 July 1998, shall meet the following requirements:"

ANNEX 20

DRAFT MODIFIED REGULATION XI-2/5 ON SPECIAL MEASURES TO ENHANCE MARITIME SECURITY

Regulation 5**Ship Security ~~Alarm~~ Alert**

1. SHIPS SHALL BE FITTED WITH A SHIP SECURITY ~~ALARM~~ ALERT INSTALLATION AS FOLLOWS:
 - .1 ships constructed on or after [1 July 2004];
 - .2 passenger ships including high-speed passenger craft constructed before [1 July 2004], not later than the first survey of the radio installation after [1 July 2004];
 - .3 oil tankers, chemical tankers, gas carriers, bulk carriers and cargo high speed craft of 500 gross tonnage and upwards constructed before [1 July 2004], not later than the first survey of the radio installation after [1 July 2004]; and
 - .4 for other cargo ships of 500 gross tonnage and upward and mobile offshore drilling units constructed before [1 July 2004], not later than the first survey of the radio installation after [1 July 2006].
2. The ship security ~~alarm~~ alert, when activated, shall:
 - .1 ~~[using the radio communication installation fitted on board for compliance with the requirements of chapter IV]~~ automatically initiate and transmit a ship-to-shore security alert {to a competent authority designated by the Administration} identifying the ship, its location and indicating that the security of the ship is under threat or it has been compromised;
 - .2 not send the ship security alert to any other ships;
 - .3 not raise an alarm on-board the ship; and
 - .4 continue to transmit the ship security alert until it has been deactivated and /or reset ~~[by the authorized [shipboard] personnel]~~;
3. An activation point for the ship security ~~alarm~~ alert installation shall be fitted on the navigation bridge and in at least one other location.
 - 3.1 The ship security ~~alarm~~ alert activation points shall be designed so as to prevent the inadvertent ~~[or unauthorized]~~ initiation of the ship security alert.
4. The ship security ~~alarm~~ alert installation shall conform to performance standards not inferior to those adopted by the Organization.

Note: Strike-out text indicates proposed deletions and shaded text shows proposed additions and changes.

ANNEX 21

REVISED DRAFT RECOMMENDATION ON PERFORMANCE STANDARDS FOR A SHIP SECURITY ALERT INSTALLATION

1 Introduction

The ship security ~~alarm~~ **alert** ~~is~~ **is** system **is** fitted to a ship for the purpose of transmitting a security alert to the shore to indicate to a competent authority that the security of the ship is under threat or has been compromised. It comprises a minimum of two activation points, one of which is fitted on the navigation bridge. These initiate the transmission of a ship security alert by being interfaced to radiocommunication equipment. The system is intended to allow a covert activation to be made which alerts the competent authority ashore and does not raise an alarm on board ship ~~or~~ **nor** alert other ships. **There is no indication on the ship that the alert has been received.**

2 General

In addition to complying with the general requirements set out in assembly resolution A.694(17) the ship security ~~alarm~~ **alert** should comply with the following performance standards.

3 Power supply

The ship security ~~alarm~~ **alert** should be powered from the ship's main source of electrical energy. In addition it should be possible to operate the ships security alarm from an alternative source of electrical energy.

4 Activation Points

Fixed activation points should be a single dedicated control protected against inadvertent operation. It should not be necessary for the user to remove seals or to break any lid or cover in order to operate the control.

The size of the activation point should be such that it is possible to operate the activation point covertly and it should also be possible to operate the activation point with one hand.

5 Interfaces

The activation points should be ~~capable of being~~ connected to **a** radio systems such that transmission of the security alert does not require any adjustment of the radio system i.e. tuning of channels or setting of modes or menu options. Operation of the activation point should not cause any alarm or indication to be raised on the ship.

Note: Strike-out text indicates proposed deletions and shaded text shows proposed additions and changes.

6 Transmission Systems

In all cases, transmissions initiated by security alert activation points should include a unique code/identifier indicating that the alert has not been generated in accordance with GMDSS distress procedures.

The following radio systems ~~may be used with~~ have been identified as being capable of transmitting the ships security ~~alarm~~ alert:

Systems for which performance standards exist:¹

Inmarsat-C

~~Compliance with Resolution A.807(19) as amended by Resolution MSC.68(68) Annex 4. The transmitted signal should be at distress priority and include "piracy/armed attack" as the reason for the alert.~~

~~Discreet Surveillance and Alarm Systems (DSAS)~~

~~A discreet alarm system not forming part of the ship's main GMDSS installation, but which uses the GMDSS infrastructure. Such a discreet system could survive and continue to operate even if all GMDSS equipment is disabled. This capability has not been defined but commercial examples exist.~~

EPIRB—406 MHz

~~Compliance with Resolution A.810(19). The transmitted signal should include the type of distress indicator "piracy/armed attack" as the reason for the alert.
Note: This capability does not yet exist and will have to be defined and developed by COSPAS-SARSAT, which should be invited to do so by NAV 48 after that Sub-Committee has taken action as requested in paragraph 67.6 of the MSWG report (MSC 75/WP.18).~~

EPIRB – Inmarsat-E

~~Compliance with Resolution A.812(19). The transmitted signal should include the type of distress indicator "piracy/armed attack" as the reason for the alert.
Note: This capability has been defined but has not yet been implemented.~~

Security Beacon

~~Using existing EPIRB infrastructure either 406 MHz or Inmarsat E/E+. This is a new equipment to be developed.~~

¹ Systems are ordered according to cases of installation.
I:\NAV\48\19.DOC

MF/HF DSC

~~Compliance with Resolution A.806(19) as amended by Resolution MSC.68(68) Annex 3. The transmitted signal should be an individual call to a coast station with category Distress and Type of Distress "Piracy/armed attack".~~

VHF DSC

~~Compliance with Resolution A.803(19) as amended by Resolution MSC.68(68) Annex 1. The transmitted signal should be an individual call to a coast station with category Distress and Type of Distress "Piracy/armed attack"~~

Systems for which performance standards do not exist

Discreet Surveillance and ~~Alarm~~ Alert Systems (DSAS)²

EPIRB-Inmarsat-E+

7 Security Alert

The Security Alert should continue to repeat in accordance with the relevant radio installation performance standard until ~~acknowledged or~~ deactivated and/or reset, ~~by authorized shipboard personnel.~~

8 Testing

The ship security ~~alarm~~ alert installation should be capable of being tested.

²

A discreet ~~alarm~~ alert system not forming part of the ship's main GMDSS installation, but which uses the GMDSS infrastructure. Such a discreet system could survive and continue to operate even if all GMDSS equipment is disabled. This capability has not been defined but commercial examples exist.

ANNEX 22**DRAFT MSC CIRCULAR****MAINTENANCE AND ADMINISTRATION OF AIS BINARY MESSAGES**

1 The Maritime Safety Committee, at its seventy-fifth session (15 to 24 May 2002) requested the Sub-Committee on Safety of Navigation to consider carefully the procedure for introducing and maintaining AIS binary messages.

2 The Sub-Committee on Safety of Navigation, at its forty-eighth session (8 to 12 July 2002) noting that the responsibility for the maintenance of the binary messages was currently with IALA and needed to be officially transferred to IMO, and agreeing on the need to carefully consider and develop administrative and other procedures which should apply, invited Members and IALA in the interim to make an inventory of all binary messages and advise NAV 49. IALA confirmed its readiness to hand over the responsibility for the maintenance of AIS binary messages to IMO.

3 Member Governments are invited to take note of the above information.
